SUNRISE II POWER PROJECT RIGHT-OF-WAY

LOCATION: Section 32, T. 31 S., R. 23 E. and Section 14 T. 31 S., R. 24 E. (BLM)

Section 34, T. 31 S., R. 23 E. and Section 32, T. 31 S., R. 24 E. (DOE)

M.D.M., Kern County**,** California

CASE FILE/SERIAL NUMBER: CA-43673

AFFECTED SURFACE AREA: Sunrise II		Sunrise II Project Site	Sunrise Water Supply Line	*Injection Wells*
	BLM Acres:	0	10.91	0
	DOE Acres:		19.09	
	Private Acres:	11.7	109.4	4.1
	Total Acres:	11.7	139.40	4.1

ACEC (NAME): None

MAPS: Fellows, Taft, and Buena Vista Lakebed (formerly Mouth of Kern) 7½' Quad/ Taft Surface Management 1:100,000

I. Description of the Proposed Action And Alternatives

A. Proposed Action

The proposed action is to authorize a right-of-way grant for the construction of an approximately 15.3 mile water supply line that will commence at Sunrise II in Section 23, Township (T) 31 South (S), Range (R) 22 East (E) and end at Section 13, T31S, R24E near the western intersection of Golf Course Road and State Route (SR) 119. Additionally, the proposed action is to also authorize improvements of West Kern Water District's (WKWD) Pumping Station "B" on Department of Energy land Section 32, T31S, R24E.

The water line route would follow an existing water pipeline right-of-way corridor, except 2.7 miles where it follows SR 33 and a portion of the project's existing natural gas pipeline and follows Route E/E2/L approaching Golf Course Road. The water line route traverses approximately 1.2 miles of Bureau of Land Management land (Section 32, T31S, R23E, and Section 14, T31S, R24E) and 2.1 miles of Department of Energy land (Section 34, T31S, R23E and Section 32, T31S, R24E) including approximately 1.4 acres adjacent to WKWD Pump Station B. Total disturbance on federal lands will be 30.00 acres. Total projected

disturbance on private lands will be 109.4 acres. The permanent right-of-way width would be 75 feet for the water supply line. The water supply line would be comprised of proposed Routes C/ C'/E/E2/L. Routes C and C' would be constructed from Sunrise II eastward, eventually connecting with Pump Station B. Route E/E2/L would complete a 36" diameter water line started by WKWD, with an up to 48" diameter water line connecting Pump Station B to the existing WKWD line at Golf Course Road. The WKWD water line has been completed from Pump Station A to Golf Course Road.

Routes C and C' would follow an existing natural gas pipeline corridor eastward, along the southern boundary of Sections 23 and 24 to the intersection of State Route (SR) 33, where they would turn southward following the highway. Both routes would be offset approximately 70 feet to the east of SR 33, remaining within or adjacent to the SR 33 right-of-way. At Pump Station G, where SR 33 intersects the southern boundary of Section 30, Routes C and C' deviate. Route C would continue to follow SR 33 southward until it intersects with Midway Road, where Route C would turn eastward to parallel Midway Road. Route C would be constructed north of Midway Road, within or adjacent to the Midway Road right-of-way, retaining the approximate 70-foot offset.

Route C' would exit Pump Station G eastward for approximately 0.5 mile before turning southward to connect back up with Route C along Midway Road. All of Route C' would be constructed within an existing WKWD waterline right-of-way. Route C' would return to Route C along Midway Road near the southwest corner of Section 34 (MP 6.5). From this point, Routes C and C' would be the same route, traveling eastward until reaching Pump Station B.

Route E would extend from Pump Station B northeast to the northern boundary of Section 23 with Section 14 where Route E2 would turn east to the southeast corner of Section 14. Route E2 would then turn east for approximately 500 feet[1]. Route L would then turn northeast for approximately 4,300 feet to the interconnection with the WKWD waterline at Golf Course Road, completing the water supply connection between Pump Stations A and B. Route E/E2/L are proposed to be constructed along with either Route C or C'. Routes C and E/E2/L are approximately 15.5 miles long, and Routes C, C', and E/E2/L are approximately 15.3 miles long.

An approximately 900-foot portion of water line Route L in Section 13 will be constructed above ground in order to avoid the deeply buried cultural resources observed between 1.5 and 3 meters below surface along a portion of Route L during presence/ absence testing. Route L will be raised from a buried pipeline to an above ground pipeline at a point approximately 130 feet northeast of the north-south running section line between Sections 13 and 14. Route L will be located above ground for approximately 900 feet, before being buried at a point approximately 1,030 feet northeast of the north-south running section line between Sections 13 and 14.

[1] Route E2, as originally designed, ran from Route E to Golf Course Road. The majority of this alignment has been dropped from consideration; only the westernmost 500 feet of Route E2 will be utilized.

The above-grade segment of Route L will require pipe supports at approximately 40-50-foot intervals. These pipe supports will require footings, which will require limited excavation and soil compaction. The footings will be approximately 6 feet wide, 8 feet long, and will extend to a maximum depth of approximately 3 feet below the ground surface. Wherever possible, footings will be installed at locations previously excavated by a backhoe-mounted auger used for conducting presence/ absence testing for cultural resources along Route L. Excavation and/ or soil compaction for the footings will be limited to a maximum depth of approximately 3 feet below surface, a maximum width of approximately 6½ feet, and a maximum length of approximately 8½ feet.

Paralleling the first 2.5 miles of the C and C' Routes will be a water discharge line. Up to eight injection wells for wastewater disposal will be located along the water line route in Section 30, T31S, R23E. Approximately 4.1 acres will be disturbed (0.46 acres permanent, 3.68 acres temporary) during construction and operation of these wells.

Public Lands Crossed by Water Supply Line		
Location: T. 31 S., R. 23 E., M.D.M.		
Section 32	N1/2NE1/4,N1/2N1/2NW1/4	BLM
Section 34	S1/2	DOE
Location: T.31 S., R. 24 E., M.D.M.		
Section 14	S1/2SE1/4SE1/4	BLM
Section 32	S1/2	DOE

B. Alternatives

Alternative Site Locations

Sunrise II is a modification of the existing simple cycle project using the same plant footprint. There are no alternative plant site locations for Sunrise II.

Alternative Project Configurations

Sunrise II is a conversion of an existing simple cycle power plant to a combined cycle power plant. The presence of an existing facility "platform" significantly narrows the range of feasible alternative project configurations. A conversion of Sunrise to a cogeneration cycle is not feasible because there is not an economically viable, long-term steam customer for a cogeneration project. Therefore, no other alternative project configurations would meet the Sunrise II goal of generating an additional 265 MW by the summer 2003 as a modification to the existing simple cycle facility.

Water Supply Line Routes

Two potential water pipeline route alternatives are under consideration to supply water from the existing WKWD well field. The preferred Route C/C'/E/E2/L, and a minor variation C/E would involve construction of a new approximately 15.3 mile supply line to connect Sunrise

II through WKWD Pump Station G and WKWD Pump Station B to a tie-in to the existing WKWD supply line near the western intersection of SR 119 and Golf Course Road. An alternative to the preferred routing would involve construction of a line to the north from Pump Station B and interconnecting with the WKWD system at the Elk Hills Power Plant. Each of the above water line route alternatives has been evaluated with respect to several criteria that are important in achieving the overall goals of the project:

Economic Viability

Each water line route was evaluated for its ability to meet the economic goals of Sunrise II. Routes that would require excessive capital cost of construction were not considered viable.

Right-of-Way Concerns

Each water line route was evaluated for potential difficulties in securing the necessary public and private rights-of-way to support the line. Routes were evaluated based on if they involve substantial use of existing or previously negotiated rights-of-way and thus represent less risk due to right-of-way concerns.

Biological Resources Impacts

Routes were evaluated based on whether important biological resources had been identified on the route and if resources were so extensive that cost-effective mitigation would be difficult to achieve.

Cultural Resources Impacts

Routes were evaluated based on whether potentially significant cultural resources had been identified on the route that may impact the location of the water line.

Other Environmental Impacts

Routes were evaluated based on if all other environmental impacts are either insignificant or can be mitigated to insignificance.

Comparison of Water Line Alternatives

A comparison of the water supply line alternatives with respect to each of the criteria above is presented below.
Route C/C'/E/E2/L

The preferred water supply pipeline route is described as a combination of Routes C, C', E, E2, and L. This preferred route is 15.3 miles long and follows an existing water line right-of-way for all except 2.7 miles where it follows State Route 33 and a portion of the project's natural gas pipeline and near the terminus of the Route E at Golf Course Road where Routes E2 and L are slightly south of the existing WKWD water line right-of-way. By following the existing water line, right-of-way impacts will be minimized.

Evaluations of potential impacts from construction of the preferred water supply pipeline route are provided in the Sunrise II AFC Amendment submitted to CEC. As described in the analysis of Biological Resources (Section 8.2), Cultural Resources (Section 8.3), and Paleontological Resources (Section 8.16), there will be no significant unmitigated environmental impacts from the construction of the preferred water supply pipeline route. Brief summaries of these analyses are provided as follows.

Biological Resources

The construction and operation of Sunrise II could result in killing or injuring sensitive wildlife and plant species or could result in temporary and permanent losses of habitat important to common and sensitive wildlife and plant species in the area. The types of hazards that could occur are road kills due to vehicle collision and entombment in pipes, as well as entrapment of individuals in burrows and open trenches. Mitigation measures contained in the approved Sunrise Biological Resources Mitigation and Implementation Monitoring Plan (BRMIMP) and in the permits being obtained from regulatory agencies will minimize the chance of injury or mortality due to these hazards and reduce this potential impact to less than significant levels associated with Sunrise II. Therefore potential impacts to biological resources are considered insignificant.

Cultural Resources

The Cultural Resources surveys (BLM Class III) conducted for Sunrise II resulted in the recordation of previously unrecorded resources as well as the update of records for previously recorded resources. The maximum construction ROW required is a 70-foot-wide alignment (maximum 20 feet on one side of centerline and 50 feet on the other side). However, in areas where the pipeline route passes within 20 feet of a known cultural resource, the construction corridor will be moved to the opposite side or narrowed to 50 feet (maximum 10 feet on one side of the centerline and 40 feet on the other side) to avoid the resource. Construction of the waterline will require a maximum 70 foot-wide ROW on the ground surface for all segments described below, with the exception of those portions of the pipeline where the ROW will be constricted to avoid cultural resources.

Two historic cultural resource sites (W-21, W23) that cannot be avoided by narrowing the construction corridor have been formally evaluated for significance pursuant to California Register of Historic Resources (CRHR) and National Register of Historic Places (NRHP) eligibility criteria. After consultation with the State Historic Preservation Officer, these two resources have been determined not eligible for inclusion on either the CRHR or NRHP. A third cultural resource that cannot be avoided by narrowing the construction corridor is historic site W-16. Eligibility of this site was waived with the conditional finding of "No Historic Properties Adversely Affected" with the application of specific mitigation measures. These mitigation measures and the Application of the Conditions of Certification for the simple cycle facility (CUL-1 through CUL-18) and the new condition proposed for Sunrise II (CUL-19) combined with the implementation of the Cultural Resources Monitoring and Mitigation Plan (CRMMP) and the newly prepared CRMMP Addendum, will ensure that construction of the waterline will not result in significant impacts to cultural resources .

There are no anticipated impacts to National Register Properties or components of sites that may have the potential to contribute to National Register eligibility in the Area of Potential Effect. In the specific case of cultural resources identified near the Golf Course Road terminus, several sub-alternatives of the Route E portion of the water supply line were identified, surveyed, and tested for cultural resources. Based on the results of survey and presence/ absence testing, a combination of alternative waterline Routes E2 and L, slightly south of the original Route E, will avoid the previously identified prehistoric cultural resource sites W-26, W-33, and W-34. By narrowing the construction corridor on Route L, these three cultural sites will be outside the project Area of Potential Effect. In addition, a portion of Route L will be constructed above ground in order to further avoid deeply buried cultural resources observed during presence/ absence testing.

Several supplemental surveys for cultural resources have been conducted for other components of the Sunrise II Power Project. Proposed wastewater injection well locations WW1 – WW8 (and a 200-foot radius around each well) were subjected to intensive pedestrian survey for cultural resources, resulting in the update of records for one previously recorded resource and the documentation of a previously unrecorded resource. A short segment of alternative water line alignment, known as Route C1, was surveyed for cultural resources, resulting in the recordation of one previously unrecorded cultural resource; this alignment has been dropped from consideration. Area 100, a construction laydown and borrow area immediately north of the Sunrise II plant site, was also subjected to intensive pedestrian survey for cultural resources, with negative results.

Paleontological Resources

A Paleontological Resources survey was conducted along the proposed water pipeline corridor. No paleontological resources were identified during the field survey, for either the main route or its alternate.

Route C/E/E2/L

This 15.5-mile alternative water supply pipeline route is a minor variation described as a combination of Routes C, E, E2, and L. This route follows a portion of the project's natural gas pipeline, SR 33, and an existing water line right-of-way. However, it does not follow as much existing water line right-of-way as the preferred Route C/C'/E/E2/L. Evaluations of potential impacts from construction of the both the C/C'/E/E2/L and C/E/E2/L routes are provided in the Sunrise II Amendment submitted to CEC. As described in the analysis of Biological Resources (Section 8.2), Cultural Resources (Section 8.3), and Paleontological Resources (Section 8.16), there will be no significant unmitigated environmental impacts from the construction of the alternative water supply pipeline route. Summaries provided above for the C/C'/E/E2/L Route generally apply to this alternative except following the existing water line right-of-way.

Route C1

Alternative Water Line Route C1 is an approximately 2000 foot-long alternative alignment for the water supply pipeline known as Route C1, located to the west of State Route 33 (SR 33), approximately two (2) miles north of the town of Fellows, California. This route has been dropped from consideration.

Route E1 and E1A

Alternative Routes E1 and E1A were considered at the terminus near Golf Course Road. However neither route would ensure avoidance of a known prehistoric archaeological site and therefore, were not considered viable alternatives.

Route E2

The majority of Route E2 has been dropped from consideration, due to cultural resources concerns. Only the westernmost 500 feet of Route E2 are included in the preferred route.

Route B

The alternative route north from Pump Station B and interconnecting with the WKWD system at the Elk Hills Power Plant has no significant advantage in terms of overall line length, would be more expensive to construct, and has the potential disadvantage of traversing a significant amount of known blunt nose leopard lizard habitat. While this alignment could be constructed without significant biological resources impacts, construction along this alignment would require intensive biological resources monitoring that would have the potential to substantially delay construction. For these reasons, the alternative routing to the Elk Hills Power Plant interconnection with WKWD is not preferred.

Other alternative routings to the WKWD system would either involve longer pipelines, would potentially impact sensitive biological resources, and/or would be extremely difficult and expensive to construct. For these reasons, the preferred water line route was selected.

Route S

Alternative Route S was developed as an avoidance route for cultural resources, but was subsequently dropped from consideration.

Conclusion

Based on the analysis above, Route C/C'/E/E2/L has been identified as the preferred route for the water supply pipeline. Route C/C'/E/E2/L is 0.2 mile shorter and follows more existing water line right-of-way than Route C/E/E2; and is more economically viable and has a lower potential for significant adverse impacts to biological resources that Route B. In

addition, use of Route E2/L will avoid prehistoric sites and isolates identified during field surveys and presence/ absence testing.

C. No Action

The "No Action" alternative would consist of denial of the application for the right-of-way grant.

II. PURPOSE AND NEED FOR THE ACTION

The key objective of Sunrise II is to expand the existing Sunrise Project in order to bring an additional 265 MW of nominal generating capacity by summer 2003.

The original Sunrise Cogeneration and Power Project (Sunrise) applied for a California Energy Commission (CEC) license in December 1998. The application was declared complete in February 1999. After complete evidentiary hearings, the Siting Committee issued a Presiding Member's Proposed Decision (PMPD) in May 2000.

On September 12, 2000, Sunrise requested an amendment to modify the Sunrise Project from a cogeneration project to a limited term simple cycle project (3 years) responding to the need for power in summer peak 2001. A PMPD for the amended Sunrise Power Project was issued on November 20, 2000, the CEC granted a license to construct the project on December 6, 2000, and construction commenced the following day. Construction of the Sunrise Simple Cycle Power Project was completed and commercial operation was underway in June 2001. On January 17, 2001, the Governor issued Executive Order D-25-01, directing the CEC to complete expedited review of post-certification amendments reflecting combined cycle conversions of previously licensed simple cycle projects. A post-certification amendment was submitted in May 2001, pursuant to Executive Order D-25-01, to convert the Sunrise Simple Cycle facility to Sunrise II, a combined cycle plant. The Sunrise II amendment was approved in November 2001.

This amendment is consistent with the CEC-approved Sunrise II amendment and reflects a proposed conversion of the previously licensed Sunrise Project (98-AFC-4) a simple cycle peaking plant to Sunrise II, a combined cycle facility. The proposed combined cycle facility will be built within the same footprint as the simple cycle facility except for a minor extension adjacent to the north boundary of the footprint for borrow and construction lay-down and a minor extension along the south boundary to accommodate two construction trailer areas. These footprint extensions will not extend into or impact the ephemeral streambed located directly north of the site. The proposed action involves granting a right-of-way for a new approximately 15.3-mile water supply line including improvements of West Kern Water District's (WKWD) Pumping Station "B" on Department of Energy land Section 32, T31S, R24E to provide cooling makeup water from the West Kern Water District. A new 8-inch approximately 0.9 mile recycle water discharge line will interconnect with Texaco California Inc.'s (TCI) makeup water system. The recycle water discharge line will be buried for approximately 600 feet and then will be routed aboveground on TCI's existing utility backbone supports. Sunrise II will also install an approximately 2.5 mile

water discharge line and up to 8 new deep injection wells for disposal. Other than the exceptions noted above, the proposed combined cycle facility will use the same linear facilities previously analyzed and approved by the CEC and that were the subject of Sunrise's earlier BLM ROW and EA Number CA-016-00-003.

Various documents submitted through the CEC certification and amendment process described above and/or listed below, along with the evidentiary record of the CEC certification process serves as the basis for preparation of this Environmental Assessment (EA). The original AFC for the Sunrise Project provides detailed project information and environmental analysis, the Transmission Supplement 2, the Application for Transportation and Utility Systems and Facilities on Federal Lands, and the Amendments to Application for Certification and Prevention of Significant Deterioration Permit Application provided additional information through conversion of Sunrise to a simple cycle facility. The Sunrise II Amendment to Sunrise Power Project, the Sunrise II Application for Transportation and Utility Systems and Facilities on Federal Lands, the Preconstruction Notification, Nationwide Permit #12 submitted to the U.S. Army Corps of Engineers; the Water Quality Certification application submitted to the Central Valley Regional Water Quality Control Board; and the Notification of Streambed Alteration submitted to the California Department of Fish and Game provide information on the conversion of Sunrise to Sunrise II, a combined cycle facility. All of these documents were submitted to CEC and the specific administering agency. Copies are available in the Bakersfield BLM office.

III. AFFECTED ENVIRONMENT

CONFORMANCE WITH APPLICABLE LAND USE PLAN

This proposed action falls within the Valley Management Area of the Caliente RMP, approved in May 1997. This plan has been reviewed to determine if the proposed action conforms with the land use plan, terms, and conditions as required by 43 CFR 1610.5-3(a).

Relationship to Statutes, Regulations, and Other Plans

A Bureau of Land Management authorization of construction and operation of an underground water supply line and an above ground water supply line across public land is consistent with regulations at 43 CFR § 2800 and the Federal Land Policy and Management Act of 1976, as amended (43 U.S.C. §§ 1767-1771).

Relationship to Other Environmental Documents

Sunrise Cogeneration and Power Company (Sunrise) submitted an Application for Certification (AFC) to the California Energy Commission (CEC) pursuant to the provisions of Title 20, California Code of Regulations, on December 21, 1998 seeking authority to construct and operate the Sunrise Cogeneration and Power Project. This application initiated a series of public scoping workshops, site visits, notices, CEC preliminary and final staff assessments, and Energy Commission Hearings that serve as an Environmental Impact Report equivalent under the California Environmental Quality Act (CEQA). The AFC has been supplemented with additional information from the applicant in response to CEC staff

data requests, transmission line supplement, biological surveys, development of the Biological Resources Monitoring Implementation Management Plan (BRMIMP), CEC evidentiary hearing record and a U.S. Fish and Wildlife Service Endangered Species Act biological opinion. Sunrise also submitted Amendments to Application for Certification and Prevention of Significant Deterioration Permit Application in September 2000 that describe a change from the original cogeneration cycle to a simple cycle peaking facility. The modified Sunrise Project was issued a license from the CEC on December 6, 2000 to construct and operate a simple cycle peaking facility. Construction commenced immediately and commercial operation began in June 2001.

In May 2001, Sunrise Power Company, LLC submitted a post-certification amendment to the CEC titled Sunrise II – Amendment to Sunrise Power Project (98-AFC-4) requesting approval to convert the Sunrise simple cycle facility to Sunrise II, a combined cycle plant. The new approximately 15.3 mile water supply line needed by the Sunrise II combined cycle plant will cross public lands and requires a right-of-way from the BLM and DOE. The water supply line is the proposed action covered by this EA.

The CEC Final Staff Assessment (FSA), Presiding Member's Proposed Decision (PMPD), and subsequent Commission Decision, Docket No. 98-AFC-4, for the Sunrise Project includes discussions of project need, project description and facility design, project alternatives, affected environment, environmental consequences, mitigation measures, significant unavoidable adverse impacts, compliance with applicable laws, ordinances, regulations and standards, and direct, indirect and cumulative impacts to natural and human environmental resources and values. Much of that discussion remains unchanged for the Sunrise II post-certification amendment and a similar staff assessment for the Sunrise II Amendment was prepared in September 2001. A Commission Decision on approval of the Sunrise II license amendment is expected in October 2001.

After reviewing the Sunrise AFC and its amendments, the Sunrise II Amendment, the CEC FSA, PMPD, and Commission Decision documents, the final and revised BRMIMP, and USFWS biological opinion and revisions to the biological opinion, the BLM decided to incorporate these documents by reference to avoid redundancies in analysis and to reduce the bulk of this NEPA document (BLM NEPA Handbook, 40 CFR §1502.21).

The AFC and amendments, FSA, PMPD, and Commission Decision documents describe and analyze the simple cycle Sunrise Project and the Sunrise II combined cycle project in their entirety. These documents are available for public review at BLM's Bakersfield Field Office, or may be obtained from the California Energy Commission, 1516 9th Street, Sacramento, CA. While this NEPA document describes the proposed action and alternatives, and evaluates the impacts of the project on both public (BLM and DOE) lands and private lands, the CEC documents provide additional detail on secondary impacts that are not the direct result of BLM issuing a right-of-way for the project.

In addition, the CEC certification process provides opportunities for public review and comment for the entire Sunrise Project. Because the impacts of the water supply line for which Sunrise II is seeking a BLM right-of-way are discussed in the FSA, PMPD, Decision,

and evidentiary hearing record (CEC CEQA functional equivalent process) and because this proposed action for Sunrise II is limited to the granting of a right-of-way over BLM lands, this act of granting the right-of-way does not "federalize" the Sunrise Project. (See California Trout v. Schaefer (9th Cir. 1995) 58 F.3d469; Sylvester v. U.S. Army Corps of Engineers (9th Cir. 1989) 884F.2d 394.

The CEC Committee for the Sunrise AFC issued its Decision to license the Sunrise Project as a simple cycle facility on December 6, 2000. The Sunrise II Amendment was approved by the CEC in November 2001.

Valid Existing Authorizations

Grazing
G041015 Oil Field
Bidart Brothers
Leonard A Bidart
34741 7th Standard Rd
Bakersfield CA 93312

Oil & Gas Lease
CAS 078578
Crimson Resource Management
410 17th Street # 1010
Denver CO 80202

CAS 021031
McFarland Energy Inc.
5201 Truxtun Ave.
Bakersfield CA 93309

CAS 039426
Oxy Elk Hills
Box 1002
Tupman CA 93276

CAS 019347, CAS 019348, CAS 064669
Target Drillling
Box 20005
Bakersfield CA 93309

Right-of-Way

CAS 34191 and CAS 079401
Pacific Pipeline Systems LLC

5900 Cherry Ave
Attn: Land R/W
Long Beach CA 90805

CAS 028854
Standard Oil Co
c/o Chevron USA
Attn: Scott Williams
4900 California Ave

CACA 1531 And CAS 373
West Kern Water District
Bakersfield CA 93309
Box 1105
Taft CA 93268

GENERAL SETTING

The proposed right-of-way is located in western Kern County between Fellows and Dustin Acres, California. Elevation on the subject land is approximately 1000 feet. Access to the project is via State Route (SR) 33, SR 119, Shale Road, and various dirt oilfield roads. Vegetation consists mainly of valley saltbush scrub, non-native grassland, and small areas of valley sink scrub.

SPECIFIC RESOURCES

A. Biological Resources

The general setting for biological resources within the project area and water supply line corridor has been described in the original Sunrise Project AFC submitted by the applicant to the CEC, pages 8.2-2 through 8.2-18 and in the Sunrise II Amendment, pages 8.2-2 through 8.2-11. The CEC FSA initially describes the biological resources in Part 1 on pages 245 through 252 and in a revised Biological Resources in Part 3, pages 1 through 8. The general setting is unchanged by the Sunrise II Amendment to the Sunrise Power Project (98-AFC-4).

The following information is a summary from these documents.

Vegetation. The predominant vegetation found within the project area is valley saltbush scrub, which is dominated by common saltbush (*Atriplex polycarpa*) and spiny saltbush (*Atriplex spinifera*) and other shrubs in lower abundance with an understory of non-native grasses and native and non-native forbs. In areas lacking shrubs due to fire history, site capability, or past management, non-native grasslands are dominated by brome (*Bromus spp.*), foxtail (*Hordeum* spp.) and vulpia (*Vulpia* spp.) and filaree (*Erodium cicutarium*) with a variety of native herbaceous plants.

Valley sink scrub vegetation occurs along the water supply line route in the historic high water Buena Vista Lakebed near Valley Acres, CA. The dominant shrub is bush seepweed (*Sueada moquinii*), with several species of annual saltbush (*Atriplex* spp.) present. The vegetation of this community is often interspersed with bare soil patches, which can be either alkali scalds or alkali playas. Playas can be intermittently winter flooded or saturated. Along the waterline route, there is evidence of inundation. However, the scalds are primarily bare soil, with the vegetative cover consisting of non-native grasses and annual species of the family *Chenopodiaceae*, primarily crownscale (*Atriplex coronata*) and lamb's quarters (*Chenopodium album*).

A listing of plants observed within the project area is found in Table 8.2-9 in the AFC. A listing of plants observed along the water supply line corridor is found in the Sunrise II Amendment, Table 8.2-4.

Sensitive plant species located within the project area and water supply line corridor are listed in Table 8.2-2 from the AFC and include Hoover's woolly star (*Eriastrum hooveri*), oil nestraw (*Stylocline citroleum*), gypsum-loving larkspur (*Delphinium gypsophilum* spp *ggypsophilum*), Tejon poppy (Eschscholzia *lemmonii* spp *kernensis),* cottony buckwheat (*Eriogonum gossypinum*), hollisteria (*Hollisteria lanata*), forked fiddleneck (*Amsinckia vernicosa* var. *furcata*), California jewelflower (*Caulanthus californicus*), slough thistle (*Cirsium crassicaule)*, recurved larkspur (*Delphinium recurvatum*), San Joaquin woolly threads (*Lembertia congdonii*), and Bakersfield cactus (*Opuntia basilaris* var. *treleasei*). Of these species, Hoover's woolly star is federally listed as a threatened species. Of these species, two, Hoover's woolly star and oil nestraw, were located on the BLM or DOE parcels during the survey for Sunrise II as shown in the Sunrise II Amendment Table 8.2-3 and the water line corridor map, Figure 8.2-2, identifying the Locations of Sensitive Biological Resources.

Animals. The valley saltbush scrub and non-native grasslands provide habitat to a variety of birds, mammals and reptiles. Common species include western meadowlark, common raven, lark sparrow, horned lark, loggerhead shrike, red-tailed hawk, coyote, kangaroo rat species, California ground squirrel, side-blotched lizard, western whiptail, and gopher snake. Sensitive animal species, their sign, or habitat features located during field surveys for this project include San Joaquin kit fox (*Vulpes macrotus mutica*), blunt-nosed leopard lizard (*Gambelia sila*), giant kangaroo rat, (*Dipodomys ingens*), San Joaquin antelope ground squirrel (*Ammospermophilus nelsoni*), American badger (*Taxidea taxus*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanus lidovicianus*), LeConte's thrasher (*Toxostoma lecontei macmillanorum*), San Joaquin pocket mouse (*Perognathus inornatus*), and short-nosed kangaroo rat (*Dipodomys nitratoides brevianus*). Of these, the San Joaquin kit fox, giant kangaroo rat, and blunt-nosed leopard lizard are listed as federally endangered and the San Joaquin antelope squirrel is listed as state threatened. The other species are listed as state species of special concern.

Special status wildlife and plant species are listed in the following tables reproduced from the AFC and the Sunrise II Amendment. Tables 8.2-1(AFC) and 8.2-1(Amendment) cover

wildlife and Table 8.2-2 covers plants. In addition, refer to Table 1 in Part 3, Biological Resources, page 5 of the CEC FSA for lists of sensitive plants and animals associated with the region covering the Sunrise Project area and the water supply line corridor.

Table 8.2-1. (AFC) Special Status Wildlife Species with Potential to Occur Within the Sunrise Project Site

Species	Status* Federal/State	Habitat
Reptiles		
Gambelia sila blunt-nosed leopard lizard	E/E	Open saltbush scrub and grassland habitats, roads, and open washes
Birds		
Athene cunicularia burrowing owl	- / CSC	Valley grasslands and open saltbush scrub
Gymnogyps californianus California Condor	E/E	Forages in valley grasslands and saltbush scrub
Lanius ludovicianus loggerhead shrike	- / CSC	Valley grasslands and saltbush scrub
Toxostoma lecontei LeConte's thrasher	- / CSC	Prefers mature saltbush scrub for nesting
Mammals		
Ammospermophilus nelsoni San Joaquin antelope squirrel	- / T	Shrublands, especially along washes
Dipodomys ingens giant kangaroo rat	E/E	Open habitats, grassland, and open saltbush scrub
Dipodomys nitratoides brevinasus short-nosed kangaroo rat	FSC/CSC	Western and southern side of the San Joaquin Valley, saltbush scrub, and other alluvial plain and low foothill habitats
Onychomys torridus tularensis Tulare grasshopper mouse	- / CSC	Scrub and grassland habitats on the west side of the San Joaquin Valley
Perognathus inornatus San Joaquin pocket mouse	- / CSC	Open habitats in the San Joaquin Valley
Taxidae taxus American badger	- / CSC	Grassland and scrub habitats of the San Joaquin Valley and surrounding foothills
Vulpes macrotis mutica San Joaquin kit fox	E/T	Grassland and scrub habitats of the San Joaquin Valley and surrounding foothills

E = Endangered
T = Threatened
FSC = Federal Species of Concern
CSC = California Species of Concern

Table 8.2-1. (Amendment) Additional Special Status Wildlife Species with Potential to Occur Within the Sunrise II Water Supply Line Corridors

Species	Status* Federal/State	Habitat
Invertebrates		
*Branchinecta longiantenn*a Longhorn fairy shrimp	FE	Requires intermittent pools of water
*Branchinecta lynch*i Vernal pool fairy shrimp	FE	Requires intermittent pools of water
*Lepidurus packard*i Vernal pool tadpole shrimp	FT	Requires intermittent pools of water
Reptiles		
Scaphiopus hammondii western spadefoot toad	FSC/CSC	Requires pools of water for breeding

E = Endangered
F = Federal
T = Threatened
FSC = Federal Species of Concern
CSC = California Species of Concern

Table 8.2-2. Special Status Plant Species with Potential to Occur Within the Sunrise Project Site

Species	Status* Federal/State/CNPS	Habitat
Amsinckia vernicosa var. *furcata* forked fiddleneck	FSC/CSC/1B	Foothill grassland and scrub habitats
Caulanthus californicus California jewelflower	E/E/1B	Saltbush scrub
Cirsium crassicaule slough thistle	FSC/-/1B	Wet areas
Delphinium gypsophilum ssp. *Gypsophilum* gypsum-loving larkspur	- / - / 4	saltbush scrub and grasslands of low foothills, especially north-facing slopes
Delphinium recurvatum Recurved larkspur	FSC/CSC/1B	Alkali sink, frequently with spiny saltbush
Eriastrum hooveri Hoover's wooly star	T[1]/ - /4	Open, sparsely vegetated areas in saltbush scrub and grassland
Eriogonum gossypinum cottony buckwheat	FSC/CSC/1B	Open slopes, especially south-facing
Eschscholtzia lemmonii spp. *Kernensis* Tejon poppy	- / - / 1B	Low foothills of southern and western San Joaquin Valley
Hollisteria lanata hollisteria	FSC/CSC/1B	Grassland and saltbush scrub
Lembertia congdonii San Joaquin wooly threads	E/ - /1B	Grassland, primarily sandy soils
Opuntia basilaris var. *treleasei* Bakersfield cactus	E/E/1B	Mesas and washes with sandy soils
Stylocline citroleum oil neststraw	FSC/ - /1B	Open, sparsely vegetated areas in valley grassland and saltbush scrub

CNPS = California Native Plant Society
E = Endangered
T = Threatened
FSC = Federal Species of Concern
CSC = California Species of Concern
1B = Rare or endangered in California and elsewhere
4 = Plants of limited distribution

B. Cultural Resources

The general setting for cultural resources within the project area and the water supply line corridor has been described in the Sunrise AFC, pages 8.3-1 through 8.3-15 and the Sunrise II Amendment, pages 8.3-2 through 8.3-14. The CEC FSA describes the cultural resources in Part 1, pages 187 through 204. The general setting described in the AFC and FSA is largely unchanged by the Sunrise II Amendment that includes the new water supply line. The following information is a summary from these documents; however the focus of this EA is on the water supply line which is the proposed action requiring the BLM ROW. Two alternative routes, both roughly 15 miles in length, are being considered for the water supply line. Six additional alternative water line routes were also surveyed for cultural resources, five near the northern terminus of Route E (Routes E1, E1A, E2, S, and L) and one near State Route 33 (Route C1). The study area for cultural resources along the proposed water supply line and alternative routes is comprised of a 400-foot-wide survey corridor (200 feet on either side of the centerline), and a 0.5 mile-wide bibliographic search area on either side of the survey corridor.

In addition to the water line routes surveyed, eight wastewater injection well sites (WW1 – WW8), and a construction laydown and borrow area (Area 100) were subjected to intensive pedestrian survey. The survey area for these non-linear project components included a 200 foot-radius around each component.

Cultural resources include archaeological and historical objects, sites and districts, historic buildings and structures, cultural landscapes, and sites and resources of concern to local Native American and other ethnic groups. Components of Sunrise II, including the plant site, the southern portion of Area 100, and portions of waterline Routes C, C', and C1 were surveyed previously for the original Sunrise Power Project by Pacific Legacy, Inc. during an archaeological survey for a transmission line in 1998 (see Appendix D of the original AFC), and by URS Corporation in 2000 for a natural gas pipeline (see Appendix D of Amendments to AFC and Prevention of Significant Deterioration Permit Application). The Sunrise II study did not re-survey these portions, but rather investigated the portions of Area 100 and Routes C, C', and C1 that had not been previously surveyed for the original Sunrise Power Project. Documentary research, however, was conducted for all portions of each proposed waterline alternative, laydown area, and injection well location. Results of two surveys previously conducted for the original Sunrise Project have been incorporated into the Sunrise II analysis where appropriate.

Documentary Research. A Cultural Resource Records Search was conducted to determine the number and extent of previously conducted cultural resource studies as well as the number and location of any cultural resources within or adjacent to the project area. The records search was conducted at the Southern San Joaquin Valley Information Center in Bakersfield, the California Historical Resources Information System Information Center responsible for Kern County. The records search (RS# 01-032) of the plant site, proposed water pipeline routes, a 400 foot-wide survey area, and a study area extending for 0.5 mile on each side was conducted on January 22 and 30, 2001. Locations of all previously (formally) recorded cultural resources within this study area were plotted on USGS 7.5 minute quadrangle maps, as were all areas that had been previously subjected to archaeological field survey. Copies of

primary and/or site records were obtained for all previously recorded cultural resources within the study area, indicating National Register status.

The records search results showed that 58 previous surveys have been conducted within 0.5 mile of the waterline alignments. The records search also showed one-hundred-thirteen (113) previously recorded cultural resources located within a 0.5 mile radius of the water line alignments. Thirty-three (33) of the one-hundred-thirteen (113) previously recorded resources identified in the records search are located within approximately 200 feet of the proposed waterline routes. One (1) cultural resource (P-15-007756), located approximately 0.5 mile from Route C in the town of Fellows, is listed as a California State Historic Landmark (SHL-581). None of the remaining one-hundred-twelve (112) previously recorded cultural resources within 0.5 mile of the waterline alignments are listed (or have been determined eligible for listing) in the National Register of Historic Places (NRHP), California Register of Historic Resources, California Points of Historic Interest, or the California State Historic Landmarks.

After the fieldwork, selected oil well files at the State Division of Oil, Gas and Geothermal Resources in Bakersfield were examined to provide historical information on the dates of drilling and abandonment of certain oil wells located during the survey for water line Routes C, C', and E. Additional archival research was conducted at the West Kern Oil Museum in Taft, CA, the Beale Memorial Library, and the Kern County Assessor's Office in Bakersfield, in an effort to obtain information regarding the three historic cultural resources that could not be avoided by the project. Historic archaeological site P-15-010137/ CA-KER-5974 (W-16), drainage with historic artifact scatter P-15-010142 (W-21), and historic earthen levee-like feature P-15-010144 (W-23) were evaluated under National Register of Historic Places (NRHP) criteria. The BLM as lead Federal agency for Section 106 compliance of the National Historic Preservation Act and the Department of Energy (DOE) as the cooperating agency, determined that these three resources were ineligible for NRHP listing. However, after consultation with the State Historic Preservation Officer (SHPO), two of the cultural resource sites (W-21, W23) were found not eligible for inclusion to the California Register of Historic Resources (CRHR) and the NRHP. Eligibility determination of the third cultural resource, site W-16, was waived with the conditional finding of "No Historic Properties Adversely Affected." While the SHPO concurred with the ineligibility determination of site W-16 under Criteria A, B, and C, the SHPO concluded that Criterion D remained incompletely addressed. Hence, the finding of "No Historic Properties Adversely Affected" with the application of specific mitigation measures was determined acceptable to both BLM and DOE.

Native American Consultation. A "Sacred Lands File" records search request was submitted to the Native American Heritage Commission (NAHC) on January 15, 2001. This search encompassed all Sunrise II project components. A reply from the Native American Heritage Commission dated January 30, 2001 indicates that "no Native American cultural resources are known to exist within the immediate project area." The Native American Heritage Commission also provided a list of Native American contacts for Kern County. Letters and maps were sent to each of the six Native American contacts on February 15, 2001, informing them of the project and inquiring if they knew of any unrecorded cultural resources in the

project area. United States Postal Service delivery confirmation was used when the letters were mailed. Each letter was tracked and confirmed delivered. Two responses, via letter and telephone, have been received to date. Both responses mentioned the sensitivity of the area near the former Buena Vista Lake shoreline for prehistoric cultural resources. Both responses also requested that Native American monitors be retained to observe any archaeological testing or ground-disturbing construction activity near sensitive prehistoric cultural resources.

As part of the Section 106 process, the BLM sent letters summarizing their findings on the project to an array of Native American groups and individuals, including Federally-recognized groups in the Southern San Joaquin Valley, as well as various other individuals and entities. The BLM received one response from Santa Rosa Rancheria. URS spoke with this respondent on January 18, 2002. The respondent indicated his concern for the sensitivity of the Buena Vista Lake vicinity for Native American archaeological resources. The respondent also indicated that his group could provide monitors for the construction of the Sunrise II water supply pipeline. He also inquired about the disposition of artifacts recovered during the project. URS addressed his concerns and asked that the respondent submit his concerns in writing to URS. This letter was received by URS on February 26, 2002.

Prior to the initiation of the supplemental presence/ absence testing along Route E2, a letter was sent to each of the NAHC-listed contacts corresponded with during the preparation of the Sunrise II post-certification amendment (URS 2001). This informational letter, sent February 22, 2002, updated the NAHC-listed contacts with regard to the results of the initial presence/ absence testing conducted along Route E2. The letter also notified the recipients of the proposed supplemental presence/ absence testing to be conducted along Route E2. All letters were sent via U.S. Postal Service Priority Mail, with Delivery Confirmation. All letters were confirmed delivered. No responses were received.

Concurrently, the BLM mailed a similar letter to an array of Native American groups and individuals, including Federally-recognized groups in the Southern San Joaquin Valley, as well as various other individuals and entities. The BLM letter directed recipients to address any comments or concerns to the Sunrise Power Company for the segments of private land to be subjected to testing. No responses were received.

A Native American monitor, one of the NAHC-listed contacts for Sunrise II, was retained to observe the supplemental presence/ absence testing conducted along Route E2 between March 4-8, 2002. During the supplemental presence/ absence testing program, a concentration of fire-affected large mammal bone fragments was encountered. Pursuant to Conditions of Certification CUL-17 and CUL-19, a Native American monitor was present during the auguring. This individual was present when bone fragments were discovered on the private land segment, and all auguring was stopped within 50 feet of the find.

Pursuant to Section 2.2.7 of the Cultural Resources Mitigation and Monitoring Plan (CRMMP), the project owner and the CEC Compliance Project Manager (CPM) were notified of the find. Subsequently, several of the bone fragments were positively identified as human by osteologists at California State University, Bakersfield (CSUB) on March 7, 2002. Pursuant to Public Resources Code 5097 the County Coroner was then immediately notified.

The coroner concurred that the remains were Native American, and subsequently contacted the NAHC. The NAHC contacted URS to obtain further information about the nature and location of the discovery. The NAHC has designated a Most Likely Descendant (MLD) to work with the landowner for appropriate dispensation of the remains. At the time of publication, the remains were temporarily curated in secure storage at the URS Corporation office in Santa Ana, California, pending reburial onsite as agreed to by the MLD and the landowners' representative.

URS spoke with one of the respondents again on March 19, 2002, to update him with regard to the results of the supplemental presence/ absence testing program, to discuss monitoring of construction, and to discuss options for the disposition and curation of Native American artifacts collected during the course of the Sunrise II project. URS suggested that a rotation system for Native American monitors be arranged for the construction of the water line, in order to give the Native American individuals and entities that have expressed interest in monitoring an opportunity to do so. A similar rotation system was successfully employed on the Pastoria Energy Facility. In addition, it was proposed that, if the local Native American museums were to meet Federal curation standards in the future, the artifacts collected as part of Sunrise II be transferred from the Museum of Anthropology at CSUB at that time. This option has been proposed for the Henrietta Generating Facility in Kings County, California.

Pursuant to the wishes of the NAHC-designated MLD, the fragments of human skeletal material encountered during presence/ absence testing were reburied on April 27, 2002. The human remains were reinterred in the same location where they were encountered. The MLD and several other members of the Native American community were present. The NAHC, CEC, and BLM were notified when the remains were initially confirmed to be human and when the reburial was completed. Pursuant to a request from the NAHC, a Sacred Lands form was completed and submitted to the NAHC, recording the location of the human remains.

URS Corporation received a letter from another Native American interested party on April 25, 2002. In her letter, the respondent indicates that although her group was not listed on the NAHC list for Kern County at the time of the initial Sunrise II NAHC consultation in January 2001, the group is now listed with the NAHC. As such, the respondent requested that she be incorporated into all Native American consultation for Sunrise II. She also indicated that she would like to participate in Native American monitoring of earthmoving construction and archaeological excavation associated with Sunrise II.

Another informational letter was sent to the NAHC-listed contacts for Sunrise II on May 17, 2002, notifying them of the results of the supplemental presence/ absence testing (and associated surveys) conducted for Routes E2, S, and L and the reburial of the human remains encountered during presence/ absence testing. The letter also requests letters of interest and resumes from correspondents who are interested in monitoring the construction of Route L and have not already indicated their interest to URS.

One response was received by URS via email on May 30, 2002, in which the respondent reiterated her previously expressed interest in monitoring ground-disturbing activity

associated with the construction of Route L. Two other respondents had also previously indicated their interest in monitoring Route L construction.

Fieldwork. Cultural resources fieldwork for Sunrise II was conducted during several different field visits; different project components were subjected to intensive pedestrian survey, and in some cases, presence/ absence testing for cultural resources at different times. Portions of several Sunrise II project components, including Area 100, and water line Routes C, C', and C1 were surveyed previously for the original Sunrise Power Project by Pacific Legacy, Inc. during an archaeological survey for a transmission line in 1998 (see Appendix D of the original AFC), and by URS Corporation in 2000 for a natural gas pipeline (see Appendix D of Amendments to AFC and Prevention of Significant Deterioration Permit Application). The surveys for Sunrise II did not include a repeat-survey of these portions, but rather investigated the portions of Area 100, and water line Routes C, C', and C1 that had not been previously surveyed for the original Sunrise Power Project. A supplemental survey was conducted for three potential alternative alignments for the northern terminus of Route E, the easternmost segment of the proposed water supply pipeline running from the Sunrise II site to Golf Course Road, near Dustin Acres, California (Route E). These three alternative alignments (Routes E1, E2, and E1A) were proposed in an effort to avoid prehistoric archaeological site P-15-010147/ CA-KER-5975 (W-26), recorded during the survey conducted for Appendix D of the Sunrise II Amendment. Two additional alternative water line alignments near the northern terminus of Route E (Routes S and L) were surveyed in an effort to avoid an archaeological site (W-33) recorded during presence/ absence testing along Route E2. Another alternative water line alignment, known as Route C1, was also surveyed for cultural resources. This alignment has subsequently been dropped from consideration, as have Routes E1, E1A, and S.

In addition to the water line routes, eight proposed wastewater injection well locations (WW1 – WW8 and Area 100 construction laydown and borrow area were also subjected to intensive pedestrian survey for cultural resources.

For linear project components, a 400 foot-wide area was surveyed (200 feet on either side of the centerline); for non-linear project components, a 200 foot-radius was surveyed around the perimeter of each component.

Areas Investigated. The specific areas subjected to survey and/or presence/ absence testing are described below:

Route C. The northern end of the Sunrise II survey corridor begins approximately 500 feet southeast of the point where the southern boundary of Section 24 (T31S, R22E) intersects SR 33. The 400 foot-wide survey corridor extends southeast, along SR 33, to a point 0.75 miles northwest of Midway Road. The proposed centerline for the portion of the project along SR 33 is offset 70 feet east from the eastern edge of the pavement on SR 33. The survey corridor resumes 1,000 feet to the southeast, at a point approximately 0.5 miles northwest of Midway Road. This portion of the survey corridor ends 500 feet northwest of Midway Road.

Another portion of Route C was surveyed in Sections 31 and 32 (T31S, R24E). Here, the proposed centerline is offset 20 feet north of the existing WKWD waterline, which runs east-west approximately 500 feet north of the southern boundary of Sections 31 and 32. The survey corridor extended east-west approximately 1.75 miles, from a point roughly 400 feet east of the eastern boundary of Section 31, to the WKWD Pump Station B.

Route C'. The northern end of the Sunrise II survey corridor begins 500 feet southeast of the point where the southern boundary of Section 24 (T31S, R22E) intersects SR 33. The 400 foot-wide survey corridor extends southeast, along SR 33, to the section line between Section 30 and 32. At this point, the centerline turns to the east, following the section line for approximately 0.6 miles, at which point the line turns to the southeast. The proposed Route C' centerline follows the existing WKWD waterline (offset 20 feet to the north) for approximately 3.1 miles before intersecting Midway Road. The survey corridor ends approximately 500 feet north of Midway Road.

A portion of Route C' in Sections 35 and 36 (T 31 S, R 23 E) was surveyed in order to ensure that a full 200 foot-wide area was covered on the north side of the proposed centerline. The proposed centerline turns to the northeast, leaving Midway Road for approximately 3/8 mile, before turning to the southeast and extending roughly ¼ mile to rejoin Midway Road. The northern portion of this bend was not covered in the 1998 Pacific Legacy survey along Midway Road.

Another portion of Route C' was surveyed in Sections 31 and 32 (T 31 S, R 24 E). Here, the proposed centerline is offset 20 feet north of the existing WKWD waterline, which runs east-west approximately 500 feet north of the southern boundary of Sections 31 and 32. The survey corridor extended east-west approximately 1.75 miles, from a point roughly 400 feet east of the eastern boundary of Section 31, to the WKWD Pump Station B.

Route C1. Alternative Water Line Route C1 diverges from Water Line Routes C and C' at the intersection of SR 33 and the east-west running Section line between Sections 24 and 25 (T31S, R22E). Route C1 follows this Section line to the east for approximately 1000 feet to the north-south running Section line between Section 25 (T31S, R22E) and Section 30 (T31S, R23E). At this point, Route C1 turns to the south, following this Section line for approximately 1000 feet, rejoining Water Line Routes C and C' at SR 33.

As a large portion of Route C1 had been previously surveyed for the Sunrise Power Project natural gas supply line (URS 2000, Jackson, et. al. 2000), only the north-south running portion of Route C1 was surveyed. The northern terminus of the survey area was the east-west running Section line between Sections 24 and 25 (T31S, R22E), and the southern terminus was SR 33. The survey encompassed an area that extended approximately 200 feet on each side of the centerline for Route C1.

Route E. Route E is the portion of the proposed waterline that extends from WKWD Pump Station B to the northeast for approximately five miles before ending at Golf Course Road. The proposed centerline is offset 20 feet to the north of the existing WKWD waterline.

A supplemental survey was conducted for three potential alternative alignments for the northern terminus of Route E in order to avoid a cultural resource identified in the Sunrise II survey.

Route E1. Alternative water line Route E1 turns north from Route E along the section line between Sections 13 and 14 T31S, R24E. Route E1 turns east just south of Golf Course Road then proceeds to the same interconnection point with the WKWD line.

Route E1A. Alternative water line Route E1A turns north from Route E along the section line between Sections 13 and 14 T31S, R24E. Route E1A turns east along Golf Course Road to the interconnection point with the WKWD line.

Route E2. Alternative water line Route E2 turns east from Route E at the southern border of Section 14 to the corner of Sections 13 and 14 where the route turns northeast for approximately 3,000 feet. At that point Route E2 turns north-northeast to the interconnection point with the WKWD line.

Route S. Alternative water line Route S was developed to avoid a prehistoric archaeological site identified during presence/ absence along Route E2. The southwestern and northeastern ends of Route S are located within the Route E2 survey corridor; however, a portion of Route S is located in an area that had not been previously surveyed. The area of private land between the survey corridors for Routes E and E2 was subjected to intensive (BLM Class III) pedestrian survey for cultural resources. The survey area is an elongated swath, aligned roughly NE-SW. The entire area is approximately 2950 feet long by approximately 250 feet wide at the southwestern end, tapering to a point at the northeastern end. The southern portion of the area between the survey corridors for Routes E and E2 lies on public land administered by the BLM (S ¼ Section 14, T 31 S, R 24 E). The area on BLM land was not surveyed at that time, as a specific Fieldwork Authorization is required for cultural resources work on BLM lands. The area on private land (Section 13, T 31 S, R 24 E) that was subjected to survey, measures approximately 2475 feet long (NE-SW).

Route L. The majority of Route L is located on within the Route E, E2, and S survey corridors; however, a portion of Route L is located on BLM land that had not been previously surveyed. Before the southwestern portion of Route L, which lies on public land administered by the BLM (S ¼ Section 14, T 31 S, R 24 E), could be subjected to presence/ absence auger testing for cultural resources, the area had to be subjected to an intensive (BLM Class III) pedestrian survey for cultural resources. A Fieldwork Authorization was granted by the BLM, authorizing URS Corporation archaeologists to conduct the survey and auger testing. The portion of unsurveyed BLM land that remained between the survey corridors for Routes E and E2 measures approximately 250 feet NW-SE by approximately 600 feet NE-SW.

WW1 – WW6. Six of the eight wastewater injection well locations proposed for Sunrise II are located on the east side of State Route 33, north of WKWD Pump Station G. Two of these proposed wastewater injection wells (WW1 and WW2) will be located at the site of existing wells (#122 and 72T); the remaining four will be new wells. Three of these proposed

injection wells (including existing well # 122) are located within the area previously surveyed for Sunrise II Water Line Routes C and C'. No further cultural resources inventory was conducted for these three proposed wells. The remaining three proposed wastewater injection wells (including existing well # 72T) are located to the east, within approximately 200 feet of the eastern extent of the survey corridor for Water Line Route C. These three proposed wastewater injection well locations (and a 200-foot radius around each proposed well location) were subjected to intensive (BLM Class III) pedestrian survey for cultural resources.

The area surveyed for wastewater injection wells WW1 – WW6 encompassed an area approximately 0.5 mile long (NW-SE) and 400 feet wide (SW-NE). The southwestern edge of the survey corridor is congruent with the northeastern edge of the corridor surveyed for Sunrise II Water Line Routes C and C'. The southeastern extent of the survey corridor is congruent with the northern extent of the corridor surveyed for Sunrise II Water Line Route C'. The northwestern extent of the survey corridor is defined as 200 feet northwest of the northernmost of the six proposed wastewater injection wells (existing well # 72T). The survey corridor lies entirely within lands owned by Texaco California, Inc. (TCI); no public lands were included in the current survey.

WW7 and WW8. Proposed wastewater injection wells WW7 and WW8 will be located at the site of two existing (inactive) oil wells (#26 and 27). These two wells are located on the west side of SR 33, approximately 1.6 miles north of the town of Fellows, California, and approximately 0.25 mile northwest of WW1 and WW2. Proposed wastewater injection wells WW7 and WW8 (and a 200 foot-radius around each well) were subjected to intensive pedestrian survey for cultural resources.

Methodology. The field crew completed the intensive pedestrian field surveys (BLM Class III) by walking systematic transects through the study areas. For linear components, the survey corridor encompassed a 400-foot-wide corridor (approximately 200 feet on each side of the centerline). For non-linear components, a 200 foot-radius was surveyed around each component. Ten (10) meter to twenty (20) meter wide transects were employed in unobstructed areas with good ground visibility that were not undergoing current or recent petroleum extraction, and in areas where it was anticipated with high probability that cultural resources could be found (e.g., portions of Route E near the former shoreline of Buena Vista Lake). In accordance with the survey strategy previously employed in the project, transects up to 25 meters wide were surveyed in heavily disturbed areas (i.e., areas undergoing active petroleum extraction). Ground visibility ranged from 5% to 90%+. The surveyors made particular efforts to examine clear patches of ground, for example in areas exposed by animal burrows or road grading.

Consistent with current BLM direction (Duane Christian, personal communication, 2001), URS did not need to record oil wells with intact pumping equipment, valves, gauges, or steam injection pipes. However, many abandoned well heads, well pads, and other historic features related to oil extraction without associated modern equipment or evidence of recent use were recorded using DPR 523A (Primary) forms. More extensive historic artifact scatters

and areas with multiple associated features were recorded with full DPR 523 (Archaeological Site) forms.

Pursuant to the recommendation of CEC archaeologist Mr. Gary Reinoehl and BLM archaeologist Mr. Duane Christian, URS Corporation archaeologists conducted a program of initial presence/ absence testing for cultural resources along Sunrise II waterline Route E2. This presence/ absence testing program was conducted between Wednesday January 23 and Friday January 25, 2002.

The initial program of presence/ absence testing for cultural resources involved the hand excavation of a series of shovel test pits (STPs) along the proposed centerline for Route E2. As described above, Route E2 is comprised of three segments. STPs were excavated at 50 meter (165 feet) intervals along the central segment of Route E2, and at 100 meter (330 feet) intervals along the southwestern and northeastern segments. The STPs were 35-40 cm in diameter, and were excavated in 25 cm levels to maximum depths between 75 and 125 cm. All spoils were sifted through ¼ inch mesh screen.

Based on the results of the initial testing (see below), a CEC and BLM-approved program of supplemental presence/ absence testing for cultural resources was conducted along Route E2. The methodology for the supplemental presence/ absence testing program along Route E2 involved the use of a backhoe, hand excavation, and a backhoe-mounted auger. This approved program of supplemental presence/ absence testing for cultural resources was conducted between March 4 and 8, 2002. Excavating three shallow test trenches, a backhoe was utilized to remove the majority of the overburden atop the deposit discovered during initial testing. Hand excavation was then used to expose the upper surface of a buried cultural deposit observed during the initial presence/ absence testing. The remainder of Route E2 was subjected to supplementary presence/ absence testing utilizing a backhoe-mounted auger. Auger tests were conducted at 50 meter intervals along the majority of the Route E2 centerline, except for within the immediate vicinity of the buried deposit. Spoils were screened through 1/8-inch and 1/16-inch mesh.

All backhoe trenching and auger testing was closely monitored by archaeologists and a Native American. Whenever possible, auger test holes and test trenches were backfilled, with the surface restored to the natural grade[2]. Vehicle traffic, with the exception of the backhoe, was restricted to existing dirt roads, with a 15 mile per hour maximum speed limit observed. The Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), the Cultural Resources Mitigation and Monitoring Plan (CRMMP), and the Paleontological Resources Mitigation and Monitoring Plan (PRMMP) approved for the Sunrise II Power Project were implemented for this supplemental presence/ absence testing effort.
Based on the positive results of the supplemental presence/ absence testing along Route E2 (see below), efforts were undertaken to determine the horizontal extent of the buried

[2] The area where the test trenching and hand excavation was conducted was successfully restored to the natural grade. However, several of the auger tests were not. This is because several of the auger tests were located away from dirt roads, and in these areas, backhoe mobility was limited by biological resources concerns. In some cases the backhoe did not compact the spoils pile left atop the auger test to the natural grade, because to do so would impact additional biological resources and/or habitat. Manual compaction was conducted with limited success in these cases.

archaeological site (W-33), in order to define an avoidance corridor around the site. This was done with a series of auger tests proceeding in a northwesterly direction from the site. Subsequent to this series of auger tests, an avoidance alignment (Route S) was developed and tested utilizing auger tests at approximately 20-25 meter intervals along this alignment. Another avoidance route (Route L) was also subjected to presence/ absence testing utilizing a backhoe-mounted auger, with auger tests located at approximately 50-meter intervals along the alignment (with the exception of areas where biological resources concerns or existing pipelines required that proposed auger test locations be shifted or abandoned).

Results. The archaeological surveys conducted for Sunrise II resulted in the recordation of thirty-one (33) previously unrecorded cultural resources, as well as the update of records for three (3) previously recorded resources. Newly recorded sites and features were assigned temporary numbers as discovered and recorded (i.e., W-1, W-2, etc.). Permanent site numbers have been obtained for the majority of the newly recorded resources. When permanent site numbers are obtained from the Southern San Joaquin Valley Information Center for the remaining resources, a concordance list will be prepared for inclusion with this document and forwarded to recipients. The results of each survey and presence/ absence testing effort are presented below.

Routes C, C', and E. The survey for waterline Routes C, C', and E revisited and "ground-truthed" previously recorded sites within the survey corridor, using Global Positioning System (GPS) equipment. Two previously recorded resources (P-15-009690 and P-15-006488) were updated in the field. Portions of P-15-009690 (a historic telegraph line) had been recorded during the URS 2000 survey conducted for the natural gas pipeline; however, the telegraph line extends southeast along SR 33 and within the survey corridor for Routes C and C'. This portion of the telegraph line had not been previously recorded, as it extends well outside of the corridor surveyed for the natural gas pipeline. Resource P-15-009690 was updated in the field to include 20 telegraph poles within the current survey corridor. Resource P-15-006488 is a large historic artifact scatter with several concrete, wooden, and excavated features. Two concrete features within the previously recorded site boundary were recorded in the field as an update to the original primary record.

Some of the isolated cultural resources noted (but not formally recorded) by QUAD Consultants during a 1994 survey for a WKWD waterline (Farber 1994) were relocated and formally recorded. The remaining isolates noted by Farber in 1994 were not formally recorded, due to the limited amount of information provided, and the ubiquitous scatter of historic cultural material across the landscape.

In addition to previously recorded resources, the survey for water line Routes C, C', and E identified twenty-five (25) cultural resources that had not been previously recorded (Sunrise II Amendment, Table 8.3-1). Twenty-four (24) historic archaeological sites or features and one (1) prehistoric archaeological site were recorded in the field. The historic sites and features all appear to be related to oil field development and petroleum extraction. Field recordation included detailed description and inventory, photo-documentation, GPS readings, and mapping.

Table 8.3-1. Newly Recorded and Updated Cultural Resources Within Areas Surveyed for Sunrise II

Resource No.	USGS 7.5' Quad/ Project Component	Resource Type	Significance of Resource
P-15-000049 (Update)	Mouth of Kern/ Route E1, E1A	Prehistoric site recorded in 1909, never re-located	Undetermined*
P-15-006488 (Update)	Fellows/ Route C, C', Wastewater Discharge Line, WW1 – WW6	Complex of historic features/artifact scatter	Undetermined*
P-15-009690 (Update)	Fellows/ Route C, C'	Historic telegraph line	Undetermined*
P-15-010123 (temporary # W-1)	Fellows/ Route C, C', Wastewater Discharge Line, WW1 – WW6	Historic artifact scatter	Undetermined*
P-15-010124 (temporary # W-2)	Fellows/ Route C, C', Wastewater Discharge Line, WW1 – WW6	Historic artifact scatter	Undetermined*
P-15-010125 (temporary # W-3)	Fellows/ Route C, C', Wastewater Discharge Line, WW1 – WW6	Historic structure foundations	Undetermined*
P-15-010126 (temporary # W-5)	Fellows/ Route C, C', Wastewater Discharge Line, WW1 – WW6	Historic structure pad/foundation	Undetermined*
P-15-010127 (temporary # W-6)	Fellows/ Route C	Historic sump	Undetermined*
P-15-010128 (temporary # W-7)	Fellows/ Route C	Historic structure pad/foundation	Undetermined*
P-15-010129 (temporary # W-8)	Fellows/ Route C'	Historic artifact scatter	Undetermined*
P-15-010130 (temporary # W-9)	Fellows/ Route C'	Historic lumber concentration	Undetermined*
P-15-010131 (temporary # W-10)	Fellows/ Route C'	Historic artifact scatter	Undetermined*
P-010132 (temporary # W-11)	Fellows/ Route C'	Historic artifact scatter/structural debris	Undetermined*
P-15-010133 (temporary # W-12)	Fellows/ Route C'	Historic artifact scatters and structural pad	Undetermined*
P-15-010134 (temporary # W-13)	Fellows/ Route C'	Historic artifact scatter/structural pads/oil sumps	Undetermined*
P-15-010135 (temporary # W-14)	Taft/ Route C	Historic artifact scatter	Undetermined*
P-15-010136 (temporary # W-15)	Taft/ Route C	Historic artifact scatter/structural pads/foundations	Undetermined*
P-15-010137/ CA-KER-5974 (temporary # W-16)	Taft/ Route C, C'	Complex of historic features/artifact scatter	Undetermined*
P-15-010138 (temporary # W-17)	Taft/ Route C	Historic artifact scatter/structural pads/foundations	Undetermined*

P-15-010139 (temporary # W-18)	Taft/ Route C	Historic artifact scatter/ structural pads/foundations/oil sump	Undetermined*
P-15-010140 (temporary # W-19)	Taft/ Route C	Historic artifact scatter	Undetermined*
P-15-010141 (temporary # W-20)	Taft/ Route E	Historic artifact scatter	Undetermined*

Table 8.3-1. (Continued)

Site No.	USGS 7.5' Quad/ Project Component	Resource Type	Significance of Resource
P-15-010142 (temporary # W-21)	Taft/ Route E	Drainage with oil sand and historic artifacts	Determined ineligible for inclusion on NRHP
P-15-010143 (temporary # W-22)	Taft/ Route E	Historic artifact scatter/animal bone concentration	Undetermined*
P-15-010144 (temporary # W-23)	Taft/ Route E	Historic earthen feature with historic artifact concentration	Determined ineligible for inclusion on NRHP
P-15-010145 (temporary # W-24)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E	Historic artifact scatter	Undetermined*
P-15-010146 (temporary # W-25)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E	Historic artifact concentration	Undetermined*
P-15-010147/ CA-KER-5975 (temporary # W-26)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E	Prehistoric lithic and shell scatter	Undetermined*
P-15-010161 (temporary # W-27)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E1, E1A	Historic artifact scatter	Undetermined*
P-15-010162 (temporary # W-28)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E1, E1A	Historic artifact scatter	Undetermined*
P-15-010163 (temporary # W-29)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E1A	Historic artifact scatter with structural debris	Undetermined*
P-15-010164 (temporary # W-30)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E1A	Historic artifact scatter	Undetermined*
P-15-010165 (temporary # W-31)	Fellows/ Route C1	Historic artifact scatter	Undetermined*
P-15-010166 (temporary # W-32)	Fellows/ WW7	Complex of earthen sumps with historic artifact scatter	Undetermined*
P-15-010167 (temporary # ISO-1)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E1/E1A	Prehistoric isolate	Not Significant
P-15-010168 (temporary # ISO-2)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E2	Prehistoric isolate	Not Significant
W-33 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E2	Buried prehistoric archaeological site	Undetermined*
W-34 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route S/L	Prehistoric lithic scatter	Undetermined*

R1 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E2	Prehistoric isolate	Not Significant
R2 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E2/S/L	Prehistoric isolate	Not Significant
R3 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route S/L	Prehistoric isolate	Not Significant
R4 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route S/L	Prehistoric isolate	Not Significant
R5 (temporary # - P-15-010146/ CA-KER-5975 [W-26] update)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route L	Historic isolate (within site boundary of prehistoric site P-15-010146/ CA-KER-5975 [W-26]-recorded as an update)	Undetermined*
R6 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route S/L	Prehistoric isolate	Not Significant
R7 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route S/L	Prehistoric isolate	Not Significant
R8 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route S/L	Prehistoric isolate	Not Significant
R9 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route S/L	Prehistoric isolate	Not Significant
R10 (temporary #)	Buena Vista Lakebed (formerly Mouth of Kern)/ Route E2	Prehistoric isolate	Not Significant

* For purposes of impact assessment, all unevaluated sites are assumed to be significant.

In addition to the newly recorded and updated cultural resources identified during the survey for Routes C, C', and E, two residential structures, with associated outbuildings, along the eastern side of SR 33 were noted in the field. The dates of construction are not known for these structures located adjacent to waterline Route C. Both structures have front yards bounded by fences. The fences for both houses are approximately 80 feet from the eastern edge of the pavement on SR 33. The two residential structures fronting on SR 33 were visually assessed but not formally recorded.

Route C1. Intensive pedestrian survey of alternative water line Route C1 resulted in the recordation of one previously unrecorded historic cultural resource (P-15-010165 [W-31]).

Routes E1, E1A and E2. Intensive pedestrian survey of alternative water line Routes E1, E1A, and E2 resulted in the recordation of four previously unrecorded historic cultural resources (P-15-010161 [W-27], P-15-010162 [W-28], P-15-010163 [W-29], and P-15-010164 [W-30]) and two prehistoric isolates (P-15-010167 [ISO-1] and P-15-010168 [ISO-2]), as well as the update of the primary and archaeological site records for prehistoric site P-15-010147/ CA-KER-5975 [W-26]. The site boundary for lithic scatter P-15-010147/ CA-KER-5975 (W-26) was refined during the survey of Routes E1, E1A, and E2. The results of the intensive pedestrian survey for cultural resources along Routes E1, E1A, and E2 suggest that Route E2 is the least sensitive for cultural resources. One isolated fragment of lithic debitage (chert flake ISO-2) was recorded along Route E2, near Golf Course Road. No other cultural resources were observed within the 400-foot-wide survey corridor for E2.

The initial presence/ absence testing conducted along Route E2 resulted in the hand excavation of a total of twenty-five (25) shovel test pits (STPs) along the proposed Route E2 centerline. Twenty-one (21) STPs were negative for cultural resources; four (4) were positive for cultural resources. This initial program of presence/ absence testing for cultural resources along Sunrise II water line Route E2 revealed that subsurface cultural material appears to be present at 3 of the 23 STP locations along the proposed centerline. One STP revealed an isolated fragment of chipped stone and two (2) STPs encountered a buried midden deposit. However, the information provided by these preliminary efforts was insufficient to determine the deposit's horizontal and vertical extent, or its constituents. As avoidance of this deposit was the preferred option, it was recommended that supplemental presence/ absence testing be conducted to determine the horizontal extent of the deposit, in an effort to develop an avoidance route around it. It was also recommended that a Native American monitor be retained to observe these efforts in the field.

The program of supplemental presence/ absence testing for cultural resources along Route E2 was conducted between March 4 and 8, 2002. A backhoe was utilized to excavate three shallow test trenches to remove the majority of the overburden atop the deposit previously discovered during initial testing. This facilitated a careful hand excavation of the upper surface of the archaeological deposit (temporary site # W-33). The deposit was determined to extend at least 15 meters, and probably more than 50 meters, northeast-southwest along the Route E2 centerline. The deposit was determined to extend at least 15 meters, and probably more than 25 meters northwest-southeast.

The remainder of Route E2 was subjected to supplementary presence/ absence testing utilizing a backhoe-mounted auger. Auger tests were conducted at 50-meter intervals along the majority of the Route E2 centerline. Auger tests were not conducted in the immediate vicinity of the buried deposit discussed above. These auger tests were negative for cultural resources with the exception of the auger test located approximately 50 meters northeast of the area where the buried deposit had been exposed. This auger test encountered a similar buried midden deposit at a similar depth, hence the conclusion that the deposit may extend more than 50 meters in a northeast-southwest direction.

A series of six (6) additional auger tests were conducted in an effort to delineate the extent of buried site W-33. One (1) of these auger tests encountered the buried midden deposit, including several fragments of human skeletal remains. The other five (5) auger tests yielded sparse amounts of prehistoric cultural material that appeared to be the result of secondary deposition in an alluvial matrix.

Route S. Before alternate water line Route S could be subjected to presence/absence testing for cultural resources, a portion of the alignment required survey. A swath of previously unsurveyed private land between the survey corridors for Routes E and E2 was subjected to intensive pedestrian survey (BLM Class III) for cultural resources prior to auger testing in this area. This survey resulted in the recordation of one lithic scatter (W-34) and several isolated fragments of lithic debitage.

The auger tests along Route S (located at 20-25 meter intervals) yielded sparse amounts of cultural material (debitage, fragments of charcoal, and/or bone) that appeared to be the result of secondary deposition in an alluvial matrix. No midden or primary archaeological deposits were noted.

Route L. Before alternate water line Route L was subjected to presence/ absence testing, the southwestern portion of the alignment was subjected to intensive pedestrian survey (BLM Class III) for cultural resources. This portion of Route L crosses public land administered by the BLM (T31S, R24E, Section 14). The survey was negative for cultural resources. The remainder of Route L had been previously surveyed during surveys conducted for Routes E, E2, and S.

Route L was then subjected to presence/ absence testing for cultural resources utilizing a backhoe mounted auger, in an attempt to assess the potential for buried archaeological sites to occur along the alignment. A total of twenty-six (26) auger tests were proposed for Route L; however several of the proposed auger tests along Route L were moved slightly and four (4) were skipped due to their proximity to existing pipelines or active burrowing owl burrows. A total of twenty-two (22) auger tests were completed along the Route L centerline, at intervals of approximately 50 meters.

Nine (9) of the twenty-two (22) completed auger tests along Route L were positive for cultural resources. Auger testing on the portion of Route L that lies on BLM land revealed two (2) isolated artifacts in two auger tests located approximately 50 meters apart. The majority of Route L lies on private land, and the majority of the positive auger tests along Route L are located on private land (Section 13, T 31 S, R 24 E). Seven (7) auger tests in Section 13 were positive for cultural resources. Six (6) of these were consecutive; the seventh was located approximately 65 meters to the northeast. All showed sparse amounts of cultural material that appear to be the result of secondary deposition in an alluvial matrix. Although individual auger records revealed only sparse amounts of cultural material, analysis of the auger records revealed a pattern of cultural material found at depths between 150 centimeters and 300 centimeters below surface in several consecutive auger tests along.

Route L. The very sparsely distributed cultural materials observed in the upper 1.5 meter are considered to be isolates. The deeply buried cultural material encountered during presence/ absence testing at depths of 1.5 to 3 meters below surface along Route L in Section 13 also appear to be secondarily deposited materials within an alluvial matrix. However, these materials were found in quantities exceeding those typical of isolated artifacts.

WW1 – WW6. No previously unrecorded cultural resources were encountered during the survey for WW1 – WW6. Several features associated with previously recorded cultural resource P-15-006488 were “ground-truthed” and re-recorded. The archaeological site record for P-15-006488 was updated to include a Primary Record form (Form DPR 523A), as well as several continuation sheets with photographs, descriptions, and specific locations of the features located within the current survey area.

WW7 and WW8. One (1) previously unrecorded historic cultural resource (P-15-010166 [W-32]) was documented during the intensive pedestrian survey for wastewater injection wells WW7 and WW8.

Sensitivity. The sensitivity of the Sunrise II waterline for cultural resources potentially eligible for inclusion on the NRHP is high in the easternmost portion, near the former shoreline of Buena Vista Lake. In prehistoric times the lake formed one of the most important resource areas in the southern San Joaquin Valley. Sites located on the lakeshore, such as the historically documented Yokuts village *Tulamniu*, were major regional habitation centers. Thus, prehistoric sites in the vicinity of the lake shore should be considered potentially eligible for NRHP listing under Criterion D (resources that have yielded, or may be likely to yield, information important in prehistory or history). The remainder of the Sunrise Project site is considered to be of low sensitivity for prehistoric resources. Few prehistoric sites have been previously recorded in the vicinity of the western portion of the study area.

C. Paleontological Resources

The general setting for paleontological resources within the project area and water supply line corridor has been described in the Sunrise AFC, pages 8.16-1 through 8.16-10 and the Sunrise II Amendment, pages 8.16-2 through 8.16-3. The CEC FSA describes the paleontological resources in Part 1, pages 283 through 284. The general setting is unchanged by the Sunrise II Amendment. The following information is a summary from these documents.

Paleontological resources are the mineralized (fossilized) remains of prehistoric plant and animal organisms, as well as the impressions (trace fossils) left as indirect evidence of the form and activity of such organisms. These resources are considered to be nonrenewable resources significant under state and Federal law.

Geologic maps and reports covering the surficial geology of the water supply line corridor were reviewed to determine the exposed rock units, particularly those rock units known to be fossiliferous, and to delineate their respective areal distributions in the transmission corridor. Published and unpublished geological and paleontological literature (including previous environmental impact review documents and paleontological resource impact mitigation program final reports) were reviewed to document the number and locations of previously recorded fossil sites in and near the water supply line corridor from each rock unit exposed in the corridor, and the types of fossil remains the rock unit has produced.

The literature review was supplemented by archival searches conducted at the Natural History Museum of Los Angeles County Vertebrate Paleontology Section (LACMVP), University of California Museum of Paleontology (UCMP), Berkeley, and the San Bernardino County Museum (SBCM), Redlands, California for additional information regarding the occurrence of fossil sites and remains in and near the water supply line corridor.

Field surveys. A paleontological resources survey was conducted along the proposed water pipeline corridor within Townships T31S, R24E, T31S, R23E and T31S, R22E, Mount

Diablo Base and Meridian, Kern Co., California. The proposed water pipeline corridor area roughly parallels the West Kern Water District pipeline Route 202 for a majority of its length. The survey for the area noted above was conducted during the period from January 26th to February 6th, 2001. Routes S and L were surveyed for paleontological resources between March 4 and 8, 2002.Portions of the surficial soil materials (0-3 feet) have been highly disturbed by prior industrial activities related to oil exploration and production and are assigned a low to moderate paleontological sensitivity. However, to ensure consistency with similar paleontological field surveys in the project area, the proposed pipeline corridor area was subject to pedestrian surveys that included a buffer, for a total 400 foot-wide survey corridor (200 feet on each side of the pipeline centerline). The survey used a pedestrian transect interval between monitors that was spaced at approximately (50 feet). The survey team used this transect survey method for the entire corridor, with the exception areas adjacent industrial structures, oil wells, or buildings where the corridor route was narrowed or constrained by their proximity. Figure 8.16-1 (Maps 1 through 3) in the Sunrise II Amendment depicts the water line corridor surveyed for paleontological resources, with the exception of the area surveyed for Routes S and L. Portions of these two alignments lie within the areas previously surveyed for Route E and E2. An additional survey was conducted for those portions of Routes S and L that had not been previously surveyed, utilizing the same methodology.

Results. More than 90% of this area has been impacted by industrial facilities, namely an existing water pipeline corridor, which roughly parallels the proposed Sunrise II water line. This existing water pipeline has been designated as the West Kern Water District pipeline Route 202 and is marked at intervals with blue markers. The majority of the region traversed by the proposed pipeline corridor consists of nearly level terrain in the valley bottoms to low angle alluvial fan terrain that is periodically dissected with small ravines and gullies. The sedimentary deposits are reminiscent of similar Pleistocene to Recent age deposits that occur elsewhere in the southern San Joaquin Valley region.

Paleontological resources have also been recovered from older geological age sedimentary units in the western Kern County region, often occurring at a greater surficial depth and have previously been assigned to the Quaternary Alluvium (*Qal*) or tar seep (*Qts*) units by U.S. Geological Survey geologists. No paleontological remains were identified during the field survey, for either the main route or its alternate. The results of the paleontological resource surveys were negative.

D. Visual Resources

The general setting for visual resources within the project area and water supply line corridor has been described in the Sunrise AFC, pages 8.11-1 through 8.11-21 and the Sunrise II Amendment, pages 8.11-1 through 8.11-3. The CEC FSA describes the visual resources in Part 1, pages 104 through 118. The general setting is unchanged by the Sunrise II Amendment. The following information is a summary from these documents.
The Sunrise Project site is located in the Buena Vista Valley in an area known as the Midway Sunset Oil Field. This site is situated at the southern end of the greater San Joaquin Valley in Kern County. The valley is an arid area bordered by the foothills of the Temblor Range on the southwest and Elk Hills on the east. The valley is relatively flat and is vegetated by sparse

grasslands, saltbush scrub, and alkali sink scrub. Few water bodies or courses are found in the area, although there are some ephemeral drainages. The closest notable watercourse is Buena Vista Creek, south of the Sunrise Project site. The area has extremely low population density with no developed community centers. Most residents live on ranches scattered throughout the area. The area has been heavily developed in the past and used for petroleum production for over 90 years. The project area is classified as Class IV under BLM's visual resource management (VRM) guidelines: "Visual contrast caused by management activities may be within high to extreme levels, and become a dominant feature within the context, but the design should incorporate elements found in the characteristic landscape."
The site for the Sunrise Project is between the communities of Derby Acres and Fellows near State Route (SR) 33. The water supply line extends from the plant site to northeast of Valley Acres and Dustin Acres. The characteristics of the site are typical of the overall area, with flat topography, sparse coverage of low-lying vegetation, and petroleum development facilities. The elevation of the site is approximately 1,500 feet above sea level and the Sunrise simple cycle facility structures currently exist. Surrounding the immediate Sunrise Project site are oil pumps, steel storage tanks, overhead transmission lines, and other energy development-related facilities. Numerous transmission lines are present within one mile of the Sunrise Project site. The lines are mounted on wooden poles, varying in height from approximately 30 to 100 feet.

There are no offsite visual resource impacts from the Sunrise II physical structures, because the only offsite component, an approximately 15.5 mile water supply line, will be buried.

E. Air Quality

The general setting for air quality within the project area and the water supply line corridor has been described in the Sunrise AFC, pages 8.1-10 through 8.1-31 and the Sunrise II Amendment, page 8.1-2. The CEC FSA describes the air quality in Part 3, Air Quality pages 5 through 17. The general setting for air quality is unchanged by the Sunrise II Amendment. The following information is a summary from these documents.

Western Kern County is classified as non-attainment with respect to federal and state ambient air quality standards (AAQSs) for ozone and PM_{10}. The area is attainment for all other criteria pollutants. The Sunrise Project is classified as a major source under the San Joaquin Valley Air Pollution Control District's (SJVAPCD) New Source Review (NSR) regulations (Rule 2201). Under the federal Prevention of Significant Deterioration (PSD) requirements, the Sunrise Project is classified as a major source only of nitrogen oxides (NO_x) and carbon monoxide (CO).

The Sunrise Project will use natural gas and employ Best Available Control Technology (BACT) for large frame combined cycle gas turbines, which is dry low nitrogen oxides (NO_x) combustion and selective catalytic reduction (SCR) for NO_x control and oxidation catalyst for carbon monoxide (CO) and volatile organic compounds (VOC) control.

Modeling of the effects of the Sunrise Project on ambient air quality demonstrates that the project meets both federal and state ambient air quality standards (AAQS) for all criteria pollutants and averaging periods with the exception of PM_{10}. The project will contribute to

existing exceedances of the 24-hour and annual State PM_{10} AAQS, however these impacts will be fully mitigated by emission reduction credits (ERCs).

The water supply line, the proposed action that is the subject of this EA will not have any air quality impacts because it is a buried pipeline. Best achievable control measures (BACM) will be implemented for fugitive dust control during construction of the water supply line as described in the original Sunrise AFC.

F. Soil Resources

The general setting for soil resources within the project area and water supply line corridor has been described in the Sunrise AFC, pages 8.9-1 through 8.9-13 and the Sunrise II Amendment, pages 8.9-1 through 8.9-13. The CEC FSA describes the soil resources in Part 3, Soil and Water Resources page 2. The general setting is largely unchanged by the Sunrise II Amendment. The following information is a summary from these documents.
From the plant site at an elevation of 1,430 feet above mean sea level (msl), the Sunrise II water supply line corridor will trend down-slope over soils developed on alluvial fan material from the Temblor Range. Near its junction with an existing West Kern Water District (WKWD) water line at Golf Course Road, the water line will be at an elevation of less than 320 feet above msl. There is no agricultural development adjacent to Sunrise II that would be affected by the enlarged footprint. Portions of three parcels that may be used for agriculture are crossed by the proposed water line. However, an existing water line from WKWD water wells crosses these parcels, and agriculture appears to have continued after emplacement of the water line. Rainfall is less than 10 inches per year; groundwater is more than 100 feet below the ground surface. Some of the soil types affected by Sunrise II would be amenable to agriculture with irrigation. Soils within the Sunrise II facility boundary, surrounding acreage, and along portions of the pipeline route were previously disturbed by oil and gas production activity, road construction, or pipeline and utility emplacement.

Power Plant Site. The Sunrise II site is approximately 60% covered with the Guijarral gravelly sandy loam (National Resources Conservation Service, 1998). This soil type covers a large area from the project site to the east and south (see Sunrise II Amendment, Figure 8.9-1, Maps 1 through 3). It occurs on alluvial fan terraces and supports desert shrubs, annual grasses, and herbaceous species. The other approximately 40% of the site is covered with soil type, Number 550, Welport – Elkhills association. The soils at the site were disturbed in the past during petroleum production activity and during the construction of the original Sunrise Project.

Water Supply Line Routes
. Fifteen (15) soil types may be encountered along the proposed water supply line route during construction (see Sunrise II Amendment, Figures 8.9-1, Maps 1 through 3). Table 8.9-1 reproduced from the Sunrise II Amendment lists the soil types. Either Routes C/C'/E/E2 or C/E/E2 will be constructed. Route E/E2 is necessary to convey water from the 36-inch water main installed by WKWD at Golf Course Road. All routes parallel existing water lines or are offset by 70 feet from highways. An average of approximately 75 square feet of soil is expected to be disturbed for each linear foot of pipeline route; the average would include disturbance at jack and bore locations during pipeline construction. Approximately six jack

and bore locations will be needed along Route C or Route C'. The clearing of vegetation, excavation, and soil compaction by construction vehicles will result in increased susceptibility to water and wind erosion. Construction of the Route C/C'/E/E2 would disturb approximately 139.7 acres and Route C/E/E2 would disturb approximately 141.5 acres. The

Table 8.9-1. Soil Types Identified in the Sunrise II Project by Location

Project Element	Approximate Distance/ Location in the Project	Map Symbol[a]	Soil Name[a]
Sunrise II site and construction laydown area	8 acres at Sunrise II site	193	Guijarral gravelly sandy loam
Sunrise II site and construction laydown area	5 acres at Sunrise Project II site	550	Welport-Elkhills Association
Water line routes[b]	18,355 ft on Route C and C'; 11,280 ft on Route C; 5,200 ft on Route C'	193	Guijarral gravelly sandy loam
	700 ft on Route C and C'	550	Welport-Elkhills Association
	2,200 ft on Routes C and C'; 2,900 ft on Route C; 4,150 ft on Route C'; 1,900 ft on Route E	211	Kimberlina fine sandy loam
	6,530 ft on Route C; 11,400 ft on Route C'	195	Guijarral complex
	2,100 ft on Routes C and C'	102N	Elkhills sandy loam
	800 ft on Routes C and C'	108N	Kimberlina gravelly sandy loam
	440 ft on Routes C and C'	661	Elkhills-Legray complex
	1,100 ft on Routes C and C'	110N	Kimberlina sandy loam
	3,000 on Routes C and C'	109N	Kimberlina sandy loam
	1,600 ft on Routes C and C'; 1,100 ft on Route E	121N	Torriorthents, thick – thin complex
	600 ft on Routes C and C'	103N	Elkhills sandy loam
	9,100 ft on Route E	151	Excelsior fine sandy loam
	5,300 ft on Route E	160	Westhaven silt loam
	3,300 ft on Routes C and C'; 5,000 ft on Route E	153	Tupman gravelly sandy loam
	3,900 ft on Route E	Unmapped	Area not mapped for soil type
	200 ft on Route E	290	River wash

[a] Map symbols and soil types were obtained from preliminary maps prepared by the Bakersfield office of the National Resource Conservation Service.

[b] Lengths are measured from map plots of the proposed routes. The designation "Routes C and C'" represents lengths along which Route C and Route C' would follow the same route.

soils along the route are generally deep types, and all are well drained. The soils are alluvial deposits, lake sediments, or stream terraces developed on fans. All of the soils at the site and along the proposed water line are in the "high" corrosive class for steel and slight to moderate class for concrete. The hazards of water erosion are slight to moderate for all undisturbed soil types crossed by the water line, except for 121N, Torriorthents complex, and

Elkhills-Legray complex, and the river wash for which the hazard of water erosion is severe. However, construction in the susceptible soils will disturb 1.9 acres at most. The hazard of wind erosion is slight to moderate for all undisturbed soils along the line. However, the NRCS survey for each soil states that excavation of the soil can expose material highly susceptible to wind erosion. Revegetation or covering with synthetic matting as needed following disturbance is recommended. Route E of the water line crosses portions of three parcels that may be used for agriculture. Within two miles of Route E, land is actively being used for farming. Intensive agriculture begins east of the California Aqueduct.

G. Water Resources

The general setting for water resources within the project area and water supply line corridor has been described in the Sunrise AFC, pages 8.14-1 through 8.14-8 and in the Sunrise II Amendment, pages 8.14-1 through 8.14-6. The CEC FSA describes the water resources in Part 3, Soil and Water Resources pages 2 through 5. Additional information on the water resources and the new Sunrise II water supply line corridor are provided in the Preconstruction Notification, Nationwide Permit #12 submitted to the U.S. Army Corps of Engineers; the Water Quality Certification application submitted to the Central Valley Regional Water Quality Control Board; the Notification of Streambed Alteration submitted to the California Department of Fish and Game; and Sunrise II responses to CEC Staff Data Requests regarding Soil and Water Resources. The general setting for water resources is changed by the Sunrise II Amendment through the conversion from a simple cycle peaking plant to a combined cycle facility. Sunrise II will require the addition of a new water supply line to provide the additional cooling water needed for the combined cycle operation. The following information is a summary from these documents.

Water Supply. The existing Sunrise Project receives fresh water from the West Kern Water District (WKWD) from existing water mains located near the project site. The original supply to the simple cycle Sunrise plant from the WKWD will provide water for the new steam cycle makeup treatment system, as well as supply to the already installed evaporative coolers, fire protection, and domestic water systems. Makeup to the new steam cycle will be produced by the cycle makeup treatment system.

A new water supply line from the WKWD system will be provided to supply makeup water to the proposed wet-cooling tower system. The WKWD well fields are located approximately 18 miles northeast of the project site. WKWD will supply additional water to Sunrise II from existing wells and at least one new well. Water will be conveyed to the project site via existing and new water lines from the WKWD well field to the site.

Two potential water pipeline route alternatives were considered to supply water from the existing WKWD well field. The preferred Route C/C'/E/E2, and a minor variation C/E would involve construction of a new approximately 15.3 mile supply line to connect Sunrise II through WKWD Pump Station G and WKWD Pump Station B to a tie-in to the existing WKWD supply line near the intersection of SR 119 and Golf Course Road. Additional pumping capacity may also needed at these two interconnecting pump stations.

Average annual requirements for Sunrise II will be approximately 3,900 acre-feet of water per year from WKWD. This represents approximately 29 percent of the 1997/1998 water year demand for the district and approximately 11 percent of the projected maximum demand for the district. As shown in the Sunrise Amendment, Table 8.14-2, the average volume of water purchased by WKWD between water years 1991 and 1998 was approximately 23,700 acre-feet. Including the 3,000 acre-feet of groundwater, WKWD has averaged approximately 26,700 acre-feet of water available for either banking or meeting demand each year. Future projected demand and sources both equal approximately 34,000 acre-feet per year. In addition, WKWD has accumulated a bank account of over 238,000 acre-feet of water.

Surface Water. The regional climate is characterized as Mediterranean-subtropical, with mild winters and dry summers. Most precipitation falls between October and May, with little or no precipitation occurring during the summer months. Two of the nearest climactic data collection locations are in Maricopa, located approximately 10 miles southeast, and Bakersfield, located approximately 35 miles east of the project location. Average monthly rainfall recorded at the Maricopa station from 1948 through 1993 ranged from 0 to 1.09 inches. Average annual rainfall is 5.9 inches. The maximum monthly precipitation (recorded in Bakersfield) ranged from 0.30 to 4.68 inches. Runoff is less than 0.2 inches per year, based on data collected from 1951 through 1980.
(USGS, http://water.wr.usgs.gov/gwatlas/summary/runoff.html)

Sunrise II is proposing to construct the approximately 15.3 mile buried, water pipeline with a right-of-way for the pipeline construction of 70 ft. wide. The proposed route crosses unnamed "blue line" intermittent drainages 30 times. The pipeline centerline is adjacent to an existing WKWD water pipeline and access road. USGS maps (Figures 1-3) provided in the Preconstruction Notification, Nationwide Permit #12 shows the locations of the intermittent drainages.

All of the unnamed intermittent drainages are tributaries of the named drainages Broad and Buena Vista Creeks, and are non-navigable, isolated, intrastate waters. Broad and Buena Vista Creeks end just south of Valley Acres, California where intermittent seasonal water flows disappear into the local water table. Typically, the creeks flow only after a 10-year or greater storm event and only after local watersheds have become saturated by above average seasonal rainfall. None of the creeks or intermittent drainages have riparian or wetland vegetation attributable to these flows along their beds or banks. Vegetation is typical of the adjoining upland community, Saltbush Scrub (*Atriplex polycarpa* and *A. spinifera)*. In addition, none of the creeks or intermittent drainages supports fisheries or shellfish that could have an effect on interstate commerce.

Following a field trip of the approximately 15.3 mile fresh water pipeline route and inspection of each stream crossing, CDFG made a determination of “No Resources at Risk” for the stream crossings along the length of the pipeline.

Groundwater. Groundwater in the vicinity of the project site is not potable, and is not used for domestic or agricultural purposes due to the high total dissolved solids content. Groundwater occurs at depths greater than 300 feet below the ground surface. The area has

been used for oil production for approximately 100 years, and production water/brine has been reinjected into the subsurface during much of that period.

H. Range

The project falls within a portion of the Naval Petroleum Reserve I, grazing allotment #00016. The current authorization under GR #0401015 is for 255 sheep, grazing between Dececember and May each year.

IV. ENVIRONMENTAL CONSEQUENCES OF THE PROJECT

The California Legislature enacted Senate Bill (SB)-110, which as of January 1, 2000 did away with the integrated assessment of need and the requirement that a project show that its generating capacity not be in excess of the resources shown in the integrated assessment of need. Additionally, the Legislature has recently found that:

- "In recent years there has been significant increase in the demand for electricity in the state due to factors such as growth in population and economic activities that rely on electrical generation.
- In the past decade, efforts to construct and operate new, environmentally superior, and efficient generation facilities have seriously lagged.
- As a result, California faces potentially serious electricity shortages over the next 2 years, which necessitates immediate action by the state."

(AB970, August 31, 2000)

The Sunrise simple cycle facility was constructed in accordance with a license issued by the California Energy Commission (CEC) on December 6, 2000 and brought 320 MW of much needed power to commercial operation in June 2001. The Governor of the State of California issued recent Executive Orders to provide for emergency permit streamlining of projects that can help alleviate the current California energy crisis. Specifically, Executive Order D-25-01 directed the CEC to expedite processing amendments such as the Sunrise II conversion from simple cycle operation to combined cycle operation that would increase generating capacity from 320 MW to 585 MW. The key objective of Sunrise II is to expand the existing Sunrise Project in order to bring the additional 265 MW of nominal generating capacity on-line by summer 2003.

It is anticipated that the following critical elements will be affected by the proposed action, the Sunrise II water supply line. The affected elements are discussed further below.

Critical Element	Affected?	
	Yes	No
Air Quality	X	
ACEC's[1]		X
Cultural Resources	X	
Environmental Justice		X
Flood plain		X
Invasive, Nonnative Species	X	
Native Amer. Concerns	X	
T&E Species	X	
Wastes, Hazardous/Solids		X
Water Quality	X	
Wetlands/Riparian		X
Wild & Scenic Rivers		X
Wilderness		X
Visual		X

[1] The Sunrise II proposed action, the water supply line, does not affect the Lokern ACEC.

A. Biological Resources (Invasive, Nonnative Species, Threatened and Endangered Species)

The environmental consequences for biological resources within the project area and the water supply line corridor have been described in the Sunrise Cogeneration and Power Project Application for Certification (AFC), pages 8.2-18 through 8.2-21 and the Sunrise II Amendment to the Sunrise Power Project (98-AFC-4), pages 8.2-11 through 8.2-20, submitted by the applicant to the California Energy Commission (CEC). In addition, the update of the Biological Assessment contained in the Sunrise II Application for Transportation and Utility Systems and Facilities on Federal Lands, Section 4.0 Analysis of Impacts, covers environmental consequences. The CEC Final Staff Assessment (FSA) initially describes the biological resources in Part 1 on pages 252 through 261 and in a revised Biological Resources in Part 3, pages 8 through 18. The environmental consequences for biological resources are largely unchanged by the Sunrise II Amendment. The following information is a summary from these documents.

The construction of Sunrise II would impact natural communities within the project area through the removal of vegetation for permanent facilities and for the temporary disturbances associated with project construction. These impacts would result in direct loss of habitat for wildlife and sensitive plant and animal species. Impacts could occur from removal and crushing of shrubs and herbaceous vegetation, entombment of animals in dens or burrows, collisions with vehicles, collision with power line conductors or towers, electrocutions, loss of foraging and nesting/breeding habitat, and further fragmentation of habitat. However, with the implementation of survey, avoidance, mitigation, and compensation measures proposed by the applicant and required by the CEC Biological Resources Mitigation Implementation Monitoring Plan (BRMIMP) and the Department of Fish and Game and U.S. Fish and Wildlife Service biological opinions (which would be conditions for the BLM right-of-way), these impacts would be minimal considering the heavily disturbed nature of the oil fields where the power plant and pipelines are located and the temporary disturbances associated with the water supply pipeline.

With respect to the power plant site, construction of Sunrise II will result in approximately 11.2 acres of additional temporary disturbance associated with the new construction laydown area and borrow area. Sunrise II will also permanently disturb an additional 0.5 acres to accommodate the new cooling tower. In addition, Sunrise II will enclose within the facility fence line an area encompassing approximately 4.3 acres that was temporarily disturbed and accounted for during construction of the simple cycle project.

Construction of the approximately 15.3 mile water supply line will temporarily disturb approximately 139.7 acres. The water line will commence at Sunrise II and end near the western intersection of Golf Course Road and State Route (SR) 119 (see Sunrise Amendment Figure 8.2-2). The water line route follows an existing water line right-of-way for all except 2.7 miles where it follows SR 33 and a portion of the project's natural gas pipeline, and approximately 1 mile of the route approaching Golf Course Road. The water line route traverses approximately 114 miles of Bureau of Land Management land (Section 32, T 31S,

R 23E, and Section 14, T 31S, R 24E) and 2.14 miles of Department of Energy land (Section 34, T 31S, R 23E and Section 32, T 31S, R 24E). Total temporary disturbance on federal lands is 30.3 acres. Total disturbance on private lands (approximately12.1 miles) will be 109.4 acres.

Up to eight injection wells for wastewater disposal will be located along the water line route in Section 30, T 31S, R 23E (private land). Approximately 4.1 acres will be disturbed (0.46 acres permanent, 3.68 acres temporary) during construction and operation of these wells.

There are other projects currently under review by state, county, and local authorities where biological surveys have documented the present or former occurrence of the San Joaquin kit fox, blunt-nosed leopard lizard, San Joaquin antelope squirrel, giant kangaroo rat, Hoover's wooly-star, and California condor. These projects include urban development, construction, and expansion of highways and canals, conversion of natural land for agricultural purposes, mineral and wind energy development, flood control and reservoir construction, rodenticide use, and grazing on private and public lands. However, most of the impacts of this project are within habitats previously or currently disturbed by on-going oil field activities. This project does not greatly increase the baseline level of disturbance in the existing oil fields or along the proposed water line corridor. In addition, many of the oil field related cumulative impacts are being addressed in other Endangered Species Act compliance actions, such as the Valley Floor Habitat Conservation Plan (VFHCP).

The project applicant has proposed to compensate for the habitat loss associated with the direct impacts of Sunrise II through the purchase and funding for management of replacement habitat in the Lokern Natural Area.

A description of project impacts to biological resources, including direct and indirect impacts, toxic gas emissions, and potential effects on sensitive wildlife species, and cumulative impacts is contained in the CEC FSA and the CEC evidentiary record for the simple cycle Sunrise Project, the CEQA equivalent process. The impacts remain largely unchanged by the Sunrise II Amendment. This impact analysis concluded that the sensitive species occurring within the project area will continue to utilize the area after the project is constructed and operating. The CEC, USFWS, and CDFG also concluded that there was no evidence to show that sensitive species found in the Midway-Sunset oil field are being negatively affected by H_2S, or that the project H_2S contribution to the overall air quality situation will be large enough to impact the local wildlife species.

In addition, any disruption in surface water runoff or erosion is considered to be temporary and insignificant relative to the natural patterns and erosion in the ephemeral stream drainages. Notification of Streambed Alteration was submitted to the California Department of Fish and Game (CDFG). Following a field trip of the approximately 15.3mile fresh water pipeline route and inspection of each stream crossing, CDFG made a determination of “No Resources at Risk” for the stream crossings along the length of the pipeline.

B. Cultural Resources

The environmental consequences for cultural resources within the project area and water supply line corridor have been described in the Sunrise AFC, pages 8.3-15 through 8.3-16 and the Sunrise II Amendment, pages 8.3-14 through 8.3-18, as well as in several technical reports prepared for the project. The CEC FSA describes the cultural resources in Part 1, pages 204 through 210. The potential for significant environmental consequences is changed by the Sunrise II Amendment and the avoidance of cultural resources along the water supply line which will require specific attention. The following information is a summary from these documents.

The types and distribution of cultural resources in the general vicinity of the Sunrise Project and throughout the oil and gas production areas in western Kern County are generally known. Historic era cultural resources include buildings, structures, sites, districts, landscapes, and objects associated with transportation, oil and gas production, homesteads, commercial, and residential communities. Native American prehistoric cultural resources include archaeological sites representing residential bases, field camps, and activity areas. Such resources range from large, complex sites with a great abundance and diversity of cultural material, to isolated artifacts. No traditional cultural properties are known in the area. Sites associated with Native American heritage, especially those known to contain human remains, are of special concern for contemporary Native Americans in the area.

The Native American prehistoric resources in the vicinity of the project exist in a contemporary environment that bears little resemblance to that which existed prior to the development of the oilfields and the arrival of Europeans in the region. The draining of Buena Vista Lake removed the last conspicuous vestige of the prehistoric environment. With the loss of integrity for both the historic and prehistoric environmental context for cultural resources, it is unlikely that development of multiple power generation and oilfield projects will result in substantive indirect impacts on cultural resources.

Impacts to cultural resources would be expected to occur only during construction activities. Since operations and maintenance activities generally occur on facilities for which cultural resources have already been addressed, no potential for impact is anticipated. With the exception of isolates and the three (3) cultural resources that cannot be avoided (P-15-010137/ CA-KER-5974 [W-16], P-15-010142 [W-21], and P-15-010147/ CA-KER-5975 [W-23]), all documented cultural resources within the Sunrise II plant area and water supply line corridor will be avoided, if possible, during construction and in the course of maintaining the built project.

The Sunrise II plant will be constructed at the location of the existing Sunrise simple cycle facility with a small amount of additional borrow and construction laydown area. No cultural resources were observed during the field survey of the original plant site or the expanded Sunrise II borrow and construction laydown area (Area 100); therefore, no impacts to cultural resources are anticipated.

Area of Potential Effect (APE). For the water supply pipeline, the Area of Potential Effect (APE) is defined in both vertical and horizontal dimensions. The horizontal Area of

Potential Effect (APE) for cultural resources is congruent with the construction right-of-way (ROW). The maximum construction ROW required for the underground portions of pipeline is a 70 foot-wide ROW on the ground surface (20 feet on one side of centerline and 50 feet on the other side); this is the horizontal APE. However, in areas where the pipeline route passes within 20 feet of a known cultural resource, the construction corridor will be narrowed to 50 feet (10 feet on one side of the centerline and 40 feet on the other side) to avoid the resource. This constricted ROW/ horizontal APE can be shifted, if necessary, to avoid cultural resources.

The vertical APE is congruent with the dimensions of the trench and/or footing excavations required to construct the pipeline. For the majority of the waterline, which will be constructed below the ground surface, the maximum vertical APE will be 10 feet (3 meters) deep, 6 feet (2 meters) wide at the bottom of the trench, sloping up to 15 feet (5 meters) at the surface. For the portion of Route L that will be constructed above ground, the maximum vertical APE will be 3 feet (0.91 meter) deep, 6.5 feet (1.98 meter) wide, and 8.5 feet (2.59 meters) long for each of the pipe support footings.

Route C/C'/E. With regard to the water supply line Routes C, C', and E, two (2) previously recorded sites (P-15-001980 and P-15-006319 [CA-KER-5235H]), are potentially located within the 70-foot construction corridor (50 feet on one side of the centerline and 20 feet on the other side). However, both of these sites are located approximately 30 feet from the proposed centerline for Routes C and C'. In these areas, the construction corridor will be shifted (if necessary) to the opposite side to avoid the cultural resources. Thus, the proposed project will not affect these sites.

Two other previously recorded resources (P-15-006488 and P-15-009690), the records for which were updated in the field, are also located within the project APE for Routes C and C'. The portion of resource P-15-006488 nearest to Routes C and C' is comprised of several discrete features and loci. To the fullest extent possible, the final placement of the water line will be designed in such a way as to avoid each discrete feature or locus. Resource P-15-009690, located within the APE for Routes C and C', is a linear feature consisting of a series of telegraph poles connected by high aerial wires. However, both the poles and the aerial wires will be completely avoided during construction. Thus, the proposed project will not affect P-15-009690.

Two (2) of the six (6) newly recorded resources located within the APE for waterline Routes C, C', and E (P-15-010127 [W-6] and P-15-010145 [W-24]) are located approximately 30 feet from the proposed centerline. In these areas, the maximum 70 foot-wide construction corridor (50 feet on one side of the centerline and 20 on the other side) will be shifted (if necessary) to the opposite side to avoid the cultural resources. Thus, the proposed project will not affect these sites.

Prehistoric archaeological site P-15-010147/ CA-KER-5975 (W-26) lies within the APE for Route E, as originally designed. However, this portion of Route E has been dropped from consideration and adoption of an avoidance route (Route E2/L) for the northern terminus of the waterline will result in the avoidance of this site (see below).

The three cultural resources which cannot be avoided by construction of waterline Routes C, C' and E (P-15-010137/ CA-KER-5974 [W-16], P-15-010142 [W-21], and P-15-010144 [W-23]) have been formally evaluated for significance pursuant to applicable Federal and state law. The BLM as lead Federal agency for Section 106 compliance of the National Historic Preservation Act and the Department of Energy (DOE) as the cooperating agency, determined that these three cultural resource sites do not meet NRHP criteria. However, after consultation with the State Historic Preservation Officer (SHPO), two of the cultural resource sites (W-21, W23) were found not eligible for inclusion to the California Register of Historic Resources (CRHR) and the NRHP. Eligibility determination of the third cultural resource, site W-16, was waived with the conditional finding of "No Historic Properties Adversely Affected." While the SHPO concurred with the ineligibility determination of site W-16 under Criteria A, B, and C, the SHPO concluded that Criterion D remained incompletely addressed. Hence, the finding of "No Historic Properties Adversely Affected" with the application of specific mitigation measures was determined acceptable to both BLM and DOE. Implementation of the previously adopted Conditions of Certification for the original Sunrise Power Project, as well as CUL-18 (CEC, June 26, 2001), and CUL-19 (CEC, September 10, 2001) would reduce potential impacts to these resources to a less than significant level.

Route C1. The one historic cultural resource (P-15-010165 [W-31]) recorded during the survey for alternative water line Route C1 is located approximately 40 meters (130 feet) from the Route C1 centerline, outside the APE. Route C1 has been dropped from consideration and no construction is planned for this alignment.

Routes E, E1, and E2. The initial three alternative water line alignments (Routes E1, E1A, and E2) for the northern terminus of Route E were proposed in an effort to avoid prehistoric cultural resource P-15-010147/ CA-KER-5975 (W-26), recorded during the survey conducted for the Sunrise II Amendment. Intensive pedestrian survey of Routes E1, E1A, and E2 resulted in the recordation of four previously unrecorded historic cultural resources (P-15-010161 [W-27], P-15-010162 [W-28], P-15-010163 [W-29], and P-15-010164 [W-30]) and two prehistoric isolates (P-15-010167 [ISO-1] and P-15-010168 [ISO-2]), as well as the update of the primary and archaeological site records for prehistoric site P-15-010147/ CA-KER-5975 (W-26).

Alternative water line Routes E1 and E1A have been dropped from consideration; thus, the cultural resources within the 400 foot-side survey corridor for Routes E1 and E1A will not be affected by the project.

The results of the intensive pedestrian survey for cultural resources along alternative water line Routes E1, E1A, and E2 suggested that Route E2 is the least sensitive for cultural resources. One isolated fragment of lithic debitage (chert flake ISO-2) was recorded along Route E2, near Golf Course Road. No other cultural resources were observed within the 400-foot-wide survey corridor for Route E2. On this basis water line Route E2 was selected as the preferred water line alignment with the least potential to affect cultural resources. However, presence/ absence testing along Route E2 revealed the presence of a buried prehistoric archaeological site (W-33) within the APE. Several prehistoric isolates were also noted on the ground surface during the course of the testing programs. Narrowing and/or shifting the

construction ROW/APE is not a viable option for avoidance of W-33. In order to avoid site W-33, the vast majority of Route E2 has been dropped from consideration. Only the westernmost 500 feet of Route E2 will be utilized. No cultural resources are located within the APE for this portion of Route E2.

Route S. Archaeological site W-34 was recorded during a survey conducted for a portion of this route; however, this site is located outside the APE for Route S. Two newly recorded isolates (R6 and R7) are located on the ground surface within the APE for Route S, however these are not considered to be significant. Although the subsurface cultural materials encountered during presence/ absence testing along Route S appear to be secondarily deposited within an alluvial matrix, they are found in numbers exceeding the level of isolates. Route S has been dropped from consideration; as such, the cultural resources located within the APE for this alignment will not be affected.

Route L. The boundary of one previously recorded prehistoric site (P-15-010146/CA-KER-5975 [W-26]) is located within approximately 20 feet of the Route L centerline, as is newly recorded isolate R7. For this portion of Route L, which will be constructed above ground, the construction ROW/ horizontal APE will be limited to a maximum of 50 feet. The 50 foot-wide ROW will be configured so that the horizontal APE extends 10 feet maximum on the northwest side of the centerline, and 40 feet on the southeast side, completely avoiding the boundary for site P-15-010146/CA-KER-5975 (W-26). Isolate R-7 will not be avoided, however isolates are not subject to Section 106 compliance (NHPA).

The few subsurface cultural materials encountered along Route L in the upper 1.5 meters below surface are extremely thinly distributed, and as such are considered to be isolates. The deeply buried cultural material encountered during presence/ absence testing at depths of 1.5 to 3 meters below surface along Route L also appear to be secondarily deposited within an alluvial matrix, however they are found in numbers exceeding the level of isolates. Route L is the preferred alignment for the northeastern terminus of the Sunrise II water supply pipeline. In order to avoid the deeply buried cultural resources, an approximately 850-foot segment of Route L will be constructed above ground, on pipe supports. Excavation and compaction for the pipe support footings will not exceed a maximum depth of 3 feet (0.91 meter), thus avoiding the deeply buried resources.

Secondary, or residual impacts to cultural resources resulting from the construction of water line Route L are expected to be minimal. The construction of Route L will result in the creation of a temporary construction road immediately adjacent to the centerline where existing roads are not present and within the constricted ROW/ horizontal APE (maximum 20 feet on one side of centerline and 50 feet on the other side, except for the above ground portion of the pipeline, which will be restricted to a total of 50 feet). Erosion is expected to be minimal, as the area features an extremely gradual slope. Multiple unimproved roads and pipeline right-of-ways exist throughout the Route L vicinity.

WW1-WW8. Construction, operation and maintenance of the eight wastewater injection wells proposed for Sunrise II are not expected to result in any impacts to cultural resources. Newly recorded resources P-15-010123 (W-1), P-15-010124 (W-2), P-15-010125 (W-3), and

P-15-010126 (W-5), are located outside of the APE for wastewater injection wells WW1 – WW6. Although the proposed location for well WW5 is currently plotted within the perimeter of resource P-15-006488 (as originally recorded), the western portion of this site is comprised of discrete features, which will be avoided. Newly recorded resource P-15-010166 (W-32) is located approximately 130 feet from WW7, and will not be affected by the project.

Because no significant impacts to cultural resources are anticipated as a result of Sunrise II, no cumulative effects on the cultural resources in the area are anticipated.

C. Paleontological Resources

The environmental consequences for paleontological resources within the project area and water supply line corridor have been described in the Sunrise AFC, pages 8.16-10 through 8.16-13 and the Sunrise II Amendment, pages 8.16-3 through 8.16-7. The CEC FSA describes the paleontological resources in Part 1, pages 284 through 285. The lack of potential significant environmental consequences is unchanged by the Sunrise II Amendment and the subsequent adoption of Route L. The following information is a summary from these documents.

Paleontological resources, including an undetermined number of fossil remains and unrecorded fossil sites; and associated specimen data and corresponding geological and geographic site data; and the fossil-bearing strata, could be adversely affected by earth moving associated with construction of Sunrise II and the water supply line.

Under CEQA, a project potentially would have significant impacts if it would cause substantial adverse change in the significance of a unique paleontological resource. A non-unique and non-significant paleontological resource need be given no further consideration, other than the simple recording of its existence and possible curation of the specimen(s). In some cases, determination of a resource's uniqueness can be made only through extensive paleontological field testing, and other costly and time consuming methods. Where possible, to the maximum extent possible, resources will be avoided. If the resource meets the criteria as a unique paleontological resource or locality, and significant impacts to these resources cannot be avoided, then formal salvage operations will need to be undertaken by a qualified paleontological resources team to recover and curate these materials in the designated museum repository.

No paleontological resources were identified during the field surveys. However, should paleontological resources be encountered, the incorporation of the existing conditions of certification and the approved Paleontological Resources Mitigation and Monitoring Plan (PRMMP), which will ensure that potential impacts to sensitive paleontological resources are minimized. Therefore, no potentially significant impacts to paleontological resources are expected from construction of Sunrise II or the water supply line.

In addition, there would be no impact to paleontological resources associated with operation or maintenance of Sunrise II and its ancillary facilities.

D. Visual Resources

The environmental consequences for visual resources within the project area and water supply line corridor have been described in the Sunrise AFC, pages 8.11-21 through 8.11-28 and the Sunrise II Amendment, pages 8.11-3 through 8.11-11. The CEC FSA describes the visual resources in Part 1, pages 118 through 142. The environmental consequences regarding visual resources are changed by the Sunrise II Amendment at the plant site with the increased stack height for the Heat Recovery Steam Generators and the addition of a cooling tower for the combined cycle operation. The environmental consequences are unchanged by the Sunrise II Amendment with regard to offsite activities because the new water supply line will be buried. The following information is a summary from these documents.

A project will normally be considered to have a significant impact if it would significantly:

- Conflict with local guidelines or goals related to visual quality;
- Alter the existing natural viewsheds, including changes in natural terrain;
- Alter the existing visual quality of the region or eliminate visual resources;
- Increase light and glare in the project vicinity, particularly night-time glare;
- Result in backscatter light into the night-time sky; or
- Result in a reduction of sunlight, or the introduction of shadows, in community areas.

Sunrise II and its associated development is proposed at the existing location of the Sunrise simple cycle facility that is adjacent to existing petroleum development facilities and other industrial development. The existing development includes such features as overhead transmission lines, well pumps, storage tanks, bare graded areas, and other petroleum development-related structures.

The visual impact analysis for the project site in the original AFC and PMPD for the Sunrise Project is largely unchanged by Sunrise II. The height of the HRSG stacks would be 150 feet as compared to the simple cycle exhaust stacks that are 100 feet tall. Additional structures for Sunrise II including the cooling tower (60 feet wide x 486 feet long x 55 feet tall), the steam turbine generator (approximately 30 feet wide x 80 feet long x 50 feet tall) and the step-up transformer would not significantly increase the overall mass of Sunrise II relative to the original Sunrise Project. Sunrise II would remain barely visible from SR 33 (KOP-1).

Sunrise II is largely similar to the original Sunrise Project in terms of contrast with the surrounding environment, scale and spatial dominance, and view blockage. Although the plant would be a noticeable industrial element within the expansive viewshed from SR 33, the view is dotted with extensive industrial elements and is of only low to moderate quality. Sunrise II impacts would not significantly alter this view. Construction and operation of Sunrise II would not introduce elements into the local viewsheds, which would be substantially different in character to the construction and operation of the existing Sunrise Project or adjacent oilfield features that surround the project site.

During the combined cycle power generation process, water vapor could emanate from the two HRSG stacks and the cooling tower. Under most conditions, no visible plumes would be seen emanating from the two HRSG stacks, whereas a visible cooling tower water vapor plume would occur more frequently. These HRSG water vapor plumes would be substantially similar to those previously evaluated for the original Sunrise Project. The HRSG water vapor plumes were previously found to be insignificant. Potential cooling tower plume formation from Sunrise II was evaluated using the SACTI model. The SACT I results are discussed below.

The SACTI model provides conservative estimates of the frequency and size of a cooling tower plume based on a range of meteorological conditions and cooling tower design and on the assumption that all plumes calculated to be saturated or super-saturated are visible. In light of the SACTI model's conservative plume estimation, it is reasonable to assume that water vapors emanating from the cooling tower would actually be somewhat reduced in size and frequency. Cooling tower plumes could impact a larger view-shed because the size of the plume could substantially exceed the overall dimensions of the other Sunrise II structures. However, Sunrise II is located in a relatively remote and industrialized setting that is sparsely populated. When cooling tower plumes are visible, they would exhibit moderate to high contrast with the surroundings, would at times be visually prominent in scale and would have the ability to obstruct portions of the background. However, given the low visual quality of the project setting and the low to moderate sensitivity of viewers in the area, it is expected that Sunrise II cooling tower plume impacts would be only low to moderate in severity and will be less than significant.

There are no offsite visual resource impacts from the Sunrise II physical structures, because the only offsite component, an approximately 15.37 mile water supply line, will be buried.

E. Air Quality

The environmental consequences for air quality within the project area and water supply corridor have been described in the Sunrise AFC, pages 8.1-32 through 8.1-77 and the Sunrise II Amendment, pages 8.1-11 through 8.1-23. The CEC FSA describes the air quality in Part 3, Air Quality pages 17 through 31. The environmental consequences for air quality are changed by the Sunrise II Amendment through the modification from a simple cycle peaking plant to a combined cycle facility. The following information is a summary from these documents.

The primary emission sources during construction will be heavy equipment and fugitive dust. Like the Sunrise simple cycle construction, Sunrise II will require by contract that construction contractors properly maintain and tune their equipment as required by CEC FSA Condition AQ-C2**.** In addition, AQ-C3 will require mitigation of construction emission impacts to be covered in a Construction Mitigation Plan. Fugitive dust will be controlled according to a Construction Fugitive Dust Plan, and will employ preventative and mitigative measures such as wheel washing for large trucks entering public roads, surface watering, and application of chemical dust suppressants.

The Sunrise II operation emissions of NO_x, SO_2 and CO will not cause a violation of any NO_x, SO_2, or CO AAQS, and therefore their impacts are not significant. The project's air quality impacts from directly emitted PM_{10} and of the ozone precursor emissions of NO_x and VOC, and PM_{10} precursors of NO_x and SO_2 could be significant if left unmitigated. Sunrise II will reduce emissions to the extent feasible and provide emission offsets for NO_x, VOC, SO_2 and PM_{10} emissions, and thus these mitigation measures reduce the potential for directly emitted PM_{10} and ozone and secondary PM_{10} formation to a level of insignificance. Table Air-1 summarizes the construction and operation impacts from Sunrise II.

The SJVAPCD submitted an amended Final Determination of Compliance that concludes that Sunrise II would comply with all applicable District rules and regulations and proposed a set of conditions. These conditions will be incorporated into the conditions applied to the Sunrise II License Amendment with some modifications to Conditions AQ-1 through AQ-43 and additional Conditions AQ-44 through AQ-59. Project effects occurring on and off BLM and DOE lands have been described for air quality resources in the CEC FSA, Sunrise Cogeneration and Power Project (98-AFC-4), December 17, 1999, in the evidentiary hearing record, in the Amendments to Application for Certification and Prevention of Significant Deterioration Permit Application, September 2000, and in the Sunrise II Amendment to Sunrise Power Project (98-AFC-4), May 2001.

Table Air-1. Sunrise II Project Impacts

Pollutant	Averaging Period	Modeled Impact ($\mu g/m^3$)	Background ($\mu g/m^3$)[a]	Total Predicted Concentration ($\mu g/m^3$)	Limiting AAQS ($\mu g/m^3$)
Construction Impacts:					
CO	1-hour	1,486	2,941	4,427	23,000
	8-hour	680	2,222	2,902	10,000
NO_2	1-hour[b]	368.2	97	465.2	470
	Annual[c]	9.6	20.6	30.2	100
PM_{10}	24-hour	137	118	255	50
	Annual	9.3	42.6	51.9	30
SO_2	1-hour	99	104	203	655
	3-hour	67.9	68	135.9	1,300
	24-hour	23.3	38	61.3	105
	Annual	1.2	1.8	3	80
Turbine Impacts:					
CO	1-hour	1,743.5	2,941	4,685	23,000
	8-hour	307.6	2,222	2,530	10,000
NO_2	1-hour[b]	243.5	97	340.5	470
	Annual[c]	0.17	20.6	20.8	100
PM_{10}	24-hour	4.01	118	122	50
	Annual	0.22	42.6	42.8	30
SO_2	1-hour	3.43	104	107.4	655
	3-hour	1.61	68	69.6	1,300
	24-hour	0.26	38	38.3	105
	Annual	0.03	1.8	1.83	80

[a] Background data from Fellows, California monitoring station, 1992-1995.
[b] Result obtained assuming 100% conversion of NOx to NO2
[c] Result obtained using the Ambient Ratio Method (ARM) default value 0.75.
AAQS = Most stringent ambient air quality standard for the averaging period.
$\mu g/m^3$ = micrograms per cubic meter

Conformity Analysis

On May 31, 2001, Sunrise Power Company, LLC submitted its *Application for Transportation and Utility Systems and Facilities on Federal Lands* to the U.S. Bureau of Land Management (BLM) for the new water supply line for Sunrise II. The application seeks permission to construct on BLM and DOE-administered federal lands certain portions of the water supply line from West Kern Water District (WKWD) to the Sunrise II plant site.

Before issuing a right-of-way permit to Sunrise II, Title 40 Code of Federal Regulations Section 93.153b (40 CFR 93.153b) requires that BLM determine that the "direct and indirect impacts" of their proposed "federal action" conforms with the applicable State Implementation Plan (SIP):

> "...a conformity determination is required for each pollutant where the total of direct and indirect emissions in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs (b)(1) or (2) of this section."

For purposes of determining conformity, the following definitions apply:

> **"Federal Action"**
>
> *Federal action* means any activity engaged in by a department, agency, or instrumentality of the Federal government, or any activity that a department, agency or instrumentality of the Federal government supports in any way, provides financial assistance for, licenses, permits, or approves, other than activities related to transportation plans, programs, and projects developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601 et seq.). Where the Federal action is a permit, license, or other approval for some aspect of a non-Federal undertaking, the relevant activity is the part, portion, or phase of the non-Federal undertaking that requires the Federal permit, license, or approval.

"Direct and Indirect Impacts"

Direct emissions means those emissions of a criteria pollutant or its precursors that are caused or initiated by the Federal action and occur at the same time and place as the action.

Total of direct and indirect emissions means the sum of direct and indirect emissions increases and decreases caused by the Federal action; i.e., the 11net" emissions considering all direct and indirect emissions. The portion of emissions which are exempt or presumed to conform under §93.153(c), (d), (e), or (f) are not included in the "total of direct and indirect emissions." The "total of direct and indirect emissions" includes emissions of criteria pollutants and emissions of precursors of criteria pollutants.

Jurisdiction. Sunrise II will be located within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is designated as federal nonattainment for ozone and fine particulate matter (PM_{10}), attainment/unclassified for carbon monoxide (CO), and attainment for sulfur dioxide ($S0_2$). Emissions of volatile organic compounds (VOC), nitrogen oxides (NO_x), and CO, $S0_2$ and PM_{10} are potentially subject to a conformity determination under 40 CFR 93.153(b).

Applicability. 40 CFR 93.153(d)(1) specifies that certain types of projects or portions of projects are exempt from the conformity analysis:

> "(d) Notwithstanding the other requirements of this subpart, a conformity determination is not required for the following Federal actions (or portion thereof):
>
> (1) The portion of an action that includes major new or modified stationary sources that require a permit under the new source review (NSR) program (section 173 of the Act) or the prevention of significant deterioration program (title 1, part C of the Act)."

Based on 40 CFR 93.153(d)(1) a large portion of Sunrise II is not subject to a conformity review because it is subject to both New Source Review (NSR) by SJVAPCD and Prevention of Significant Deterioration (PSD) review by EPA Region IX. SJVAPCD completed its NSR process and issued an amended final Determination of Compliance (DOC) for Sunrise II. EPA is completing its PSD review of Sunrise II and has proposed issuance of a PSD permit. Accordingly, emissions associated with the construction and operation of the combined cycle power generation project are not subject to conformity review. Pursuant to 40 CFR 93.153(b)

the remaining portion of Sunrise II that could potentially be subject to conformity review if the expected emissions exceed the quantities set forth in the regulation is the activity associated with the construction of the combined cycle power generation plant and construction and operation of the water supply line. Expected emissions associated these project components are compared with the applicability thresholds in 40 CFR 93.153(b) in Table 1.

Table 1. Comparison of "Non-exempt" Sunrise Project Emissions with 40 CFR 93.153 Applicability Thresholds for Conformity Analysis

Attainment Designation	NO_X Serious Nonattainment	CO Unclassified Attainment	VOC Serious Nonattainment	SO_2 Attainment	PM_{10} Serious Nonattainment
Applicability Threshold, ton/yr	50	100	50	100	70
Sunrise "non-exempt" [3] emissions, ton/yr	<33.17	<41.88	<5.34	<3.07	<9.93

[1] The serious nonattainment designation applies to ozone, for which NO_x is considered a precursor.
[2] The serious nonattainment designation applies to ozone, for which VOC is considered a precursor.
[3] A portion of the Sunrise II emissions are excluded because they are exempt from consideration under 40 CFR 93.153(d)(1). These project components are subject to PSD review and/or NSR review. The non-exempt emissions shown above are the non-exempt emissions calculated for the construction of the originally proposed cogeneration project. Although the non-exempt emissions from the combined cycle project have not been specifically calculated, total non-exempt emissions for the project will be less than the above amounts because construction of the simple cycle project components has been completed, site grading activities are partially complete through construction of the simple cycle facility and reflect maximum utilization of equipment on the project site and construction of the new water supply pipeline requires fewer pieces of equipment than have been eliminated as a result of the completion of the simple cycle project components and associated natural gas pipeline and transmission line.

Conclusion. As shown in Table 1 the non-exempt component of the original Sunrise Project emissions are well below the 40 CFR 93.153 applicability thresholds. The Sunrise II non-exempt emissions are at or below the listed emission because the simple cycle project components and associated natural gas pipeline and transmission line have already been constructed. Therefore a formal conformity analysis is not required by BLM prior to issuance of a right-of-way permit for construction of the Sunrise II facilities on federal land.

F. Soil Resources

The environmental consequences for soil resources within the project area and water supply line corridor have been described in the Sunrise AFC, pages 8.9-13 through 8.9-14 and the Sunrise II Amendment, pages 8.9-2 through 8.9-14. The CEC FSA describes the soil resources in Part 3, Soil and Water Resources pages 5 through 7. The environmental consequences are largely unchanged by the Sunrise II Amendment although the amendment includes a new water supply pipeline from the West Kern Water District to the Sunrise II plant site. The following information is a summary from these documents.

There will be environmental effects on soils in the construction areas of the Sunrise II proposed water supply line. There has been previous disturbance of soils at the Sunrise II plant site and along portions of the water supply line corridor caused by previous oil and gas production activity, road construction, and other water pipeline installation. Soil resource information was obtained from unpublished maps and descriptions for southwest Kern

County. The Bakersfield office of the National Resource Conservation Service (NRCS) supplied the information.

Sunrise II Plant Site and Laydown Area

Construction Impacts. The impacts to soils at the project site have been evaluated and mitigation has been incorporated by project design and/or Conditions of Certification of the simple cycle facility. With the incorporation of the Conditions of Certification for the simple cycle facility to the proposed combined cycle facility, the Sunrise II impacts to soils at the project site are insignificant.

Operations and Maintenance Impacts. Grading and earthmoving conducted in accordance with the Kern County Code of Building Regulation Grading Ordinance, Chapter 17.28 and adherence to Best Management Practices to control erosion will reduce the soil erosion impacts to minor levels.

Water Supply Line Routes. The impacts to soils along the water line are expected to be similar to the project site that have been evaluated and for which mitigation has been incorporated by project design and/or Conditions of Certification of the simple cycle facility. With the incorporation of the Conditions of Certification for the simple cycle facility to the proposed combined cycle project, the Sunrise II impacts to soils along the water line are insignificant.

G. Water Resources

The environmental consequences for water resources within the project area and water supply line corridor have been described in the Sunrise AFC, pages 8.14-8 through 8.14-19 and the Sunrise II Amendment, pages 8.14-6 through 8.14-15. The CEC FSA describes the water resources in Part 3, Soil and Water Resources pages 7 through 11. Additional information on the water resources and the new Sunrise II water supply line corridor are provided in Sunrise II Response to CEC Staff Data Requests on Soil and Water Resources submitted to CEC, the Preconstruction Notification, Nationwide Permit #12 submitted to the U.S. Army Corps of Engineers; the Water Quality Certification application submitted to the Central Valley Regional Water Quality Control Board; and the Notification of Streambed Alteration submitted to the California Department of Fish and Game. The environmental consequences for water resources is changed by the Sunrise II Amendment through the conversion from a simple cycle peaking plant to a combined cycle facility. Sunrise II will require the addition of a new water supply line to provide the additional cooling water needed for the combined cycle operation. The potential effects of Sunrise II on water resources have been evaluated based on impacts to:

- West Kern Water District's water supply;
- State water policy;
- Surface water; and
- Groundwater.

The following information is a summary from these documents and the evaluation.

Water Supply. The West Kern Water District (WKWD) will supply the water needed for domestic, fire fighting, compressor wash, and evaporative cooler makeup. In addition, Sunrise II combined cycle operation requires a significant amount of cooling water to be supplied by WKWD. A contract will be established with the WKWD to supply water to the project. The maximum and average daily water supply requirements are shown in the Sunrise II Amendment, Table 8.14-1. Average annual requirements will be approximately 3,900 acre-feet of water per year from WKWD. New increases in water demand from the WKWD include the La Paloma Generating Project (La Paloma), the Elk Hills Power Project (Elk Hills), the Western Midway Sunset Cogeneration Company Project (Western Midway Sunset), and Sunrise II. These new increases are expected to drive WKWD demands to approximately 34,000 acre-feet per year To supply water for current and new demands, WKWD will have a new contract to buy 6,500 acre-feet per year of SWP water from the Buena Vista Water Storage District (BVWSD) (Hodges, 2001), SWP Entitlement of 20,000 acre-feet per year, historical groundwater supply of 3,000 acre-feet per year, and historical and new interruptible purchase of 6,000 acre-feet per year. A summary of water supply and demand from the WKWD well field was provided in the response to CEC Staff Data Requests on Soil and Water Resources.

State Water Policy Impacts. The volume of water that will be used for Sunrise II is a very small fraction of the beneficial use of inland waters for the state. The recycling of water within the plant has been utilized in order to minimize the consumptive use of water from WKWD. Additionally, Sunrise II will provide discharge water to be recycled by TCI and used in its oil recovery operations. Conformance with state water policies and agreements are discussed below.

The State Water Resources Control Board (Board) Policy 75-58 pertains to the use of fresh inland water for power plant cooling. This policy states that the source of power plant cooling water should come from the following sources in this order of priority depending on site specifics such as environmental, technical, and economic feasibility considerations: (1) wastewater being discharged to the ocean, (2) ocean, (3) brackish water from natural sources or irrigation return flow, (4) inland wastewaters of low TDS, and (5) other inland waters. As the project is not within the proximity of either wastewater being discharged to the ocean, or ocean water, these sources cannot viably be used for cooling water. No agricultural return flows are available in the vicinity of the Sunrise II site. Sunrise II is in the vicinity of produced oilfield water. However, this water is high in TDS, and without treatment, this water is not of sufficient quality. Also the supply cannot be reliably guaranteed for the life of the project, as there may be a decrease in oil production over the life of the project. Groundwater from the Tulare or Potter Formations could be a potential project water source, however TDS concentrations range between 4,000 to 21,000 ppm and as high as 40,000 ppm for the Tulare and Potter Formations respectively. High capital and operation and maintenance costs would be required to treat either the produced water or the groundwater, which makes either option not cost-effective.

The Board's Policy 75-58 also states that alternatives to wet cooling should be examined to determine the associated costs and water usage. An explanation of the economic infeasibility of dry cooling as a means of lowering water demand can be found in Section 5.0. Alternatives, in the Sunrise II Amendment and Sunrise II responses to CEC Staff Data Requests on Soil and Water Resources submitted August 17, 2001.

Monterey Agreement. The West Kern Water District (WKWD or District) operates under this agreement, and the contract to be established for Sunrise II will provide for the obligations and responsibilities under this agreement. If water shortages occur during drought years that affect the District's withdrawals from the State Water Project, the district will draw upon banked reserves to meet water supply obligations.

CalFed Bay-Delta Program. Sunrise II will use water that has historically been allocated to the West Kern Water District. Thus, Sunrise II will not increase permitted withdrawals from the Delta. If the Sunrise II project does not require full use of the contracted volume of water, the District may chose to contract the water to other users.

Surface Water. Potential surface water impacts include the disruption of surface runoff patterns during construction activities at the Sunrise II plant site and along the water line corridor, and stormwater management and waste discharge during operation.

During construction of Sunrise II, the grading for facility construction and reestablishment of drainage patterns after construction will not disturb the intermittent creek drainage.

Construction of new water lines may have minor impacts during construction. The same potential impacts to surface water mentioned in the original AFC regarding construction of the transmission line apply to the construction of the water supply line. The same practices described in the original AFC and required by the original Sunrise license will be implemented to reduce impacts related to all construction activities to insignificant levels. Erosion and sediment controls will be implemented, along with best management practices as recommended for compliance with the California NPDES Stormwater General Permit for Stormwater Discharge Associated with Construction Activity.

Notification of potential streambed alteration was submitted to the California Department of Fish and Game regarding the 30 unnamed intermittent drainages to be crossed by the water supply line. Following a field trip of the approximately 15.3 mile fresh water pipeline route and inspection of each stream crossing, CDFG made a determination of "No Resources at Risk" for the stream crossings along the length of the pipeline.

The U.S. Army Corps of Engineers (USACE) regulates the activities of dredging and filling in wetlands in accordance with Section 404 of the Clean Water Act. The Preconstruction Notification process under Section 404 for a Nationwide Permit #12 (Utility Line Activities) was filed with USACE. In addition, an application for a Section 401 Water Quality Certification was submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB). The USACE Nationwide Permit #12 was issued contingent upon receiving the Water Quality Certification from the CVRWQCB. Biological surveys of the potentially

affected drainages did not disclose the presence of any riparian or wetlands vegetation or indicate that the drainages support fisheries or shellfish that could have an effect on interstate commerce. No significant impacts to water resources are anticipated due to construction and operation of the water supply line.

Discharges from plant operations will not be released to the creek drainage or ground surface. All plant discharge streams will generally be reused within the plant to the extent practical and then either discharged to Texaco California Inc.(TCI) for further reuse in enhanced oil recovery operations or disposed of through deep well injection. The discharge lines will be constructed in compliance with applicable codes and regulations, under the oversight of the Kern County Engineering and Survey Services Department.

Stormwater runoff that is collected outside bermed or graded stormwater collection areas will continue to be allowed to follow natural drainage patterns, as mentioned in the original AFC. All discussion in the original AFC relating to the uncontaminated runoff applies to this amendment.

No significant impacts to surface water quality or quantity are anticipated during construction or operation of Sunrise II.

Groundwater Impacts. As mentioned in the original AFC, activities at the project site have little potential to impact groundwater beneath the site, therefore, no direct construction or operation impacts to groundwater are anticipated.

H. Range

It is anticipated that the livestock grazing operations and forage quantity and quality will not be significantly affected by the proposed action.

V. ENVIRONMENTAL CONSEQUENCES OF NO ACTION

The No Action Alternative would result in a re-routing of the water supply line right-of-way to avoid crossing BLM and DOE lands, which would increase the cost of Sunrise II. This would ultimately impact more acreage because of the re-routing and may increase any impacts to affected resources.

A. Biological Resources

The impacts of the No Action Alternative would be similar to those described for the proposed action, except that the activities would not occur on BLM or DOE lands. All mitigation measures as described below for the proposed action would be implemented through the requirements of the CEC certification process and compliance with both state and federal Endangered Species Acts.

B. Cultural Resources

This alternative would likely result in similar affects to those described for the proposed action, except these affects would occur on private land only rather than BLM or DOE. All mitigation measures as described below for the proposed action would be implemented through the requirements of the CEC certification process.

C. Paleontological Resources

This alternative would result in no impacts to paleontological resources on BLM or DOE lands. All mitigation measures as described below for the proposed action would be implemented through the requirements of the CEC certification process.

D. Visual Resources

This alternative would result in no impacts to visual resources on BLM or DOE lands. All mitigation measures as described below for the proposed action would be implemented through the requirements of the CEC certification process.

E. Air Quality

This alternative would result in no additional impacts to air quality. All mitigation measures as described below for the proposed action would be implemented through the requirements of the CEC certification process.

F. Soil Resources

This alternative would result in no impacts to soils resources on BLM or DOE lands. All mitigation measures as described below for the proposed action would be implemented through the requirements of the CEC certification process.

G. Water Resources

This alternative would result in no impacts to water resources on BLM or DOE lands. All mitigation measures as described below for the proposed action would be implemented through the requirements of the CEC certification process.

H. Range

The No-Action alternative would have no impacts to the livestock grazing authorization.

VI. MITIGATION MEASURES

Sunrise II has minimized all potential significant environmental impacts through project design measures, including facility siting and incorporation of applicant-committed mitigation measures into the licensed Sunrise Simple Cycle Project and the proposed Sunrise II Amendment. These measures have been incorporated into the right-of-way stipulations as shown on Exhibit B. These mitigation measures will reduce all potential significant direct, indirect, and cumulative impacts for all resource categories to insignificant levels.

A. Biological Resources

The mitigation measures for biological resources within the project area and water supply line corridor have been described in the Sunrise Cogeneration and Power Project Application for Certification (AFC) submitted by the applicant to the California Energy Commission (CEC), pages 8.2-21 through 8.2-25, the Sunrise II Amendment, page 8.2-20, and the Sunrise II Amendment, Appendix J, pages 153 through 163. The CEC describes the biological resources in the Commission Decision on the Sunrise Power Project, Section VII, pages 153 through 171 issued December 2000. CEC further provides changes to mitigation measures in its analysis for Sunrise II issued in September 2001. The mitigation measures for biological resources are changed by the Sunrise II Amendment through a revision to the habitat compensation acreage. The following information is a summary from these documents and the CEC evidentiary hearing record.

Numerous mitigation measures have been proposed by the project applicant in the project design and in coordination with the CEC, BLM, CDFG, and USFWS in preparing the CEC Commission Decision and the final Biological Resources Mitigation and Monitoring Plan (BRMIMP) for the simple cycle project. These measures continue to be applicable to Sunrise II and include survey, take avoidance, facility design to minimize impacts, habitat rehabilitation, worker environmental education, and habitat compensation. All mitigation measures are included in the updated BRMIMP, Appendix A, including staking and flagging avoidance areas, specific take avoidance measures, passive relocation measures, and general mitigation measures.

B. Cultural Resources

The mitigation measures for cultural resources within the project area and water supply line corridor have been described in the Sunrise AFC, pages 8.3-16 through 8.3-18, the Sunrise II Amendment, pages 8.3-18 through 8.3-21, and the Sunrise II Amendment, Appendix J, pages 172 through 184. The CEC describes cultural resources in the Commission Decision on the Sunrise Power Project, Section VII, pages 172 through 187 issued December 2000. CEC further provides changes to mitigation measures specifically for Sunrise II in its draft staff analysis on cultural resources issued in September 2001. An addendum to the Cultural Resources Mitigation and Monitoring Plan (CRMMP) has been prepared in response to conditions of certification for Sunrise II. The mitigation measures for cultural resources are changed by the Sunrise II Amendment with proposed revisions and additions to the conditions of certification involving installation of the water supply line. The following information is a summary from these documents and the CEC evidentiary hearing record.

Any cultural resource (historic or prehistoric site or object, or human remains) discovered by the holder, or any person working on his behalf, on public, Federal, or private land shall be immediately reported to the BLM authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the cultural resource specialist to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and the cultural resource specialist will make any decision as to proper mitigation measures after consulting with the holder and the BLM authorized officer.

Prior to beginning of construction, field supervisors and field construction personnel shall be given a general overview of cultural resources in the project vicinity, the sensitivity or awareness of the resource, and the regulatory protection afforded cultural resources. Field personnel will also be briefed on procedures to follow in the event that an archaeological resource is uncovered during construction. The contractor briefing will be prepared by a qualified archaeologist.

More specifically, Sunrise II will implement the general mitigation measures covered by the conditions of certification (CUL-1 to CUL-19) provided in the Commission Decision on the Sunrise simple cycle facility. Implementation of the conditions of certification will ensure that cultural resources will be protected from damage during construction or during maintenance of the built project, or to render any unavoidable direct impacts to less than significant. An employee training program will be prepared and administered by the cultural resources specialist, pursuant to conditions of certification CUL-4 and CUL-5, which will cover the potential to encounter cultural resources, their sensitivity and importance, and the legal framework that mandates their protection. All ground-disturbing construction activity in the vicinity of a known cultural resource will be monitored by a professional archaeologist designated by the cultural resource specialist, pursuant to CUL-9. The archaeological monitor(s) will have the authority to halt or redirect construction activity in the event of an unanticipated discovery, as outlined in CUL-6. The project owner will provide the cultural resource specialist and/or archaeological monitor(s) with updated maps and construction schedules on a weekly basis, beginning prior to construction, pursuant to CUL-7. As outlined in CUL-8, the archaeological monitor(s) will keep a daily log and the cultural resource specialist will prepare a weekly summary of these daily logs. Any artifacts recovered during the pre-construction surveys, construction monitoring, mapping, or other mitigation activities, will be analyzed and prepared, then curated in an appropriate repository, pursuant to CUL-12 and CUL-16. The project cultural resource specialist will scope, prepare, and submit a Cultural Resources Report following any data recovery or mitigation work conducted, as directed by CUL-13, CUL-14 and CUL-15.

A qualified monitor will be available during construction activities to address, with reference to the significance criteria of the California Register of Historical Resources and the National Register of Historic Places (36 CFR Part 60.4), the significance of cultural resources that could potentially be impacted by the project. To the extent possible, Sunrise II will be designed to avoid or minimize impacts to cultural resources.

Wherever feasible, the Sunrise II project will avoid cultural resources, resulting in no effect to the resource and eliminating the need to evaluate the significance of the resource and to minimize the need for resource-specific mitigation measures. A suite of different avoidance measures will be employed in order to effectively avoid cultural resources in areas where avoidance is feasible. Avoidance measures include narrowing of the construction Right of Way (ROW) and Area of Potential Effect (APE), re-routing of linear project components, relocation of non-linear project components, archaeological monitoring of construction activity, crew education, and resource demarcation.

Narrowing and/or Shifting of ROW/APE. The APE for cultural resources is congruent with the construction ROW. The maximum construction ROW required is 75 feet-wide (50 feet on one side of centerline and 25 feet on the other side for linear components, or 37.5-foot radius around non-linear components). However, in areas where known cultural resources are located within 20 feet of a linear component or within 37.5 feet of a non-linear component, the ROW/APE will be narrowed to avoid the resource. For linear components, the ROW/APE will be narrowed to a maximum of 50 feet (40 feet on one side of centerline and 10 feet on the other side). The greater portion of the ROW/APE may also be shifted to the opposite side of the centerline (if necessary) to avoid cultural resources. For non-linear components, the ROW/APE will be reduced to a maximum 25-foot radius.

Re-routing of Linear Components. In certain instances, linear project components, such as pipelines, may be re-routed in order to avoid known cultural resources. Although highly effective, this avoidance measure will be employed on a very limited basis, as it is generally not feasible due to inherent impacts to project cost and schedule.

Re-location of Non-linear Components. In certain instances, non-linear project components, such as wastewater injection wells, may be re-located in order to avoid known cultural resources. Although highly effective, this avoidance measure will be employed on a very limited basis, as it is generally not feasible due to engineering design limitations and inherent impacts to project cost and schedule.

Monitoring. A qualified archaeologist will conduct on-site monitoring of ground-disturbing construction activities in the vicinity of known cultural resources or in areas considered sensitive for potentially buried archaeological deposits. A Native American monitor shall be retained to observe ground-disturbing construction activity in the vicinity of sensitive prehistoric cultural resources.

Crew Education. Appropriate construction personnel will be trained to recognize and avoid cultural resources, as well as to halt construction upon the discovery of such materials.

Resource Demarcation. As appropriate, cultural resources in the vicinity of construction activities may be fenced, flagged, or otherwise posted as exclusion zones and made off-limits to construction personnel and equipment. Any violation of a cultural resource exclusion zone or other damage to cultural resources not in accordance with stipulated avoidance and mitigation measures will be reported to the CEC and BLM for appropriate action to be taken, in consultation with CEC and BLM staff, to remedy any adverse impacts.

To avoid impacts to loci A., D., G, and H. at historic resource site CA-KER-5974 [W-16] on Route C, a temporary fence shall be installed along each side of the 50 foot wide constricted construction corridor. After construction is completed, the fence shall be removed. Field monitoring during construction by a professional archaeologist shall document the results of the avoidance measures. A report shall be provided to BLM and DOE documenting field observations and recordation.

To avoid impacts to prehistoric sites W-26, W-33, and W-34, located adjacent to the Area of Potential Effect along Route L, a temporary fence shall be installed along each side of the 50 foot wide constricted construction corridor for the entire above ground surface pipeline segment (850 feet). After construction is completed, the fence shall be removed. Field monitoring during construction by a professional archaeologist shall document the results of the field observations. A Native American monitor shall be present during construction operations for this segment of the pipeline. A report shall be provided to BLM documenting field observations and recordation.

C. Paleontological Resources

The mitigation measures for paleontological resources within the project area and water supply line corridor have been described in the Sunrise AFC, pages 8.16-16 through 8.16-18 and the Sunrise II Amendment, page 8.16-7. The CEC describes the paleontological resources in the Commission Decision on the Sunrise Power Project, Section VII, pages 188 through 197 issued in December 2000. In addition, the Paleontological Resources Mitigation and Monitoring Plan (PRMMP) prepared in response to condition of certification PAL 2 will apply to Sunrise II. The mitigation measures for paleontological resources are unchanged by the Sunrise II Amendment. The following information is a summary from these documents and the CEC evidentiary hearing record.

Any paleontological resource discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the paleontological specialist and the BLM authorized officer. Holder shall suspend all operations in the immediate area until an evaluation of the discovery is made by the paleontological specialist to determine appropriate actions to prevent the loss of significant paleontologic or scientific values. The holder will be responsible for the cost of evaluation and the paleontological specialist will make any decision as to proper mitigation measures after consulting with the holder and the BLM authorized officer.

Prior to beginning of construction, field supervisors and field construction personnel shall be given a general overview of paleontologic resources in the project vicinity, the sensitivity or awareness of the resource, and the regulatory protection afforded paleontologic resources. Field personnel will also be briefed on procedures to follow in the event that a paleontologic resource is uncovered during construction. The contractor briefing will be prepared by a qualified paleontologist.

D. Visual Resources

Impacts from the Sunrise II water supply line corridor on visual resources are considered less than significant; therefore, no mitigation measures are needed.

E. Air Quality

The mitigation measures for air quality within the project area and water supply line corridor have been described in the Sunrise AFC, pages 8.1-77 through 8.1-80 and the Sunrise II Amendment, pages 8.1-22 through 8.1-23. The CEC describes the air quality in the Commission Decision on the Sunrise Power Project, Section VI, pages 98 through 131. CEC further provides changes and additions to mitigation measures in its analysis on air quality for Sunrise II issued September 2001. The mitigation measures for air quality are changed by the Sunrise II Amendment through the modification from a simple cycle peaking plant to a combined cycle facility. The following information is a summary from these documents and the CEC evidentiary hearing record.

Construction emissions will be controlled by surface stabilization measures and other preventative measures such as truck wheel washing. Furthermore, Sunrise II will require by contract that construction contractors properly maintain and tune their equipment. Sunrise II commits to substantially lessen construction emissions by implementing the following mitigation measures as described in condition of certification AQ-C1:

- The identification of the employee parking area(s) and surface of the parking area(s).
- The frequency of watering of unpaved roads and disturbed areas.
- The application of chemical dust suppressants.
- The stabilization of storage piles and disturbed areas.
- The use of gravel in high traffic areas.
- The use of paved access aprons.
- The use of posted speed limit signs.
- The use of wheel washing areas prior to large trucks leaving the project site.
- The methods that will be used to clean tracked-out mud and dirt from the project site onto public roads.

These measures will be specifically identified in a Construction Fugitive Dust Mitigation Plan. In order to further lessen impacts to construction equipment emissions, Sunrise II will require by contract that construction contractors properly maintain and tune their equipment. Sunrise II will further mitigate construction emissions from off-road diesel fired equipment as outlined in a Diesel Construction Equipment Mitigation Plan required under AQ-C3.

Operation of Sunrise II has been evaluated with respect to the requirements and regulations of the U.S. Environmental Protection Agency, the CEC, and the SJVAPCD. This analysis demonstrates that Sunrise II will not have a significant impact on air quality with the mitigation measures incorporated into the project. The results of the analysis are summarized below:

- Sunrise II will incorporate Best Available Control Technology (BACT) for large frame combined cycle gas turbines, which is dry low nitrogen oxides (NOx) combustion, selective catalytic reduction (SCR) with NOx reduced to 2 ppmv, dry at 15% oxygen, and oxidation catalyst with carbon monoxide (CO) reduced to 6 ppmv, dry at 15% oxygen and volatile organic compounds (VOC) reduced to 2 ppmv, dry at 15% oxygen.
- Annual emissions from Sunrise II will be more than those described in the original AFC. However, revised dispersion modeling demonstrates that Sunrise II will not significantly impact air quality or cause any new exceedances of applicable ambient air standards.
- Sunrise II will use a combination of previously obtained and approved emission reduction credits (ERCs) and additional ERCs to offset project emissions. With the incorporation of the ERCs, net emissions in the region will decrease and Sunrise II will result in a net air quality benefit to the region.

Table Air-2 summarizes the proposed annual emissions and ERCs to be provided by Sunrise II as mitigation.

Table Air-2. Comparison of Maximum Operation Emissions With Sunrise II ERCs

	VOC	NO_x	SO_x	PM_{10}
Max Operation Emissions, lb/yr	86,000	305,800	23,600	276,000
Total ERCs To Be Provided, lb/yr	103,200	366,960	28,320	331,200
Net Air Quality Improvement During Operation	17,200	61,160	4,720	55,200

F. Soil Resources

The mitigation measures for soil resources within the project area and water supply line corridor have been described in the Sunrise AFC, page 8.9-15 and the Sunrise II Amendment, page 8.9-14. The CEC describes the soil resources in the Commission Decision on the Sunrise Power Project, Section VII, pages 198 through 201 issued December 2000. The mitigation measures for soil resources are unchanged by the Sunrise II Amendment. The following information is a summary from these documents and the CEC evidentiary hearing record.

The following mitigation measures will be implemented to reduce impacts of construction, operations, and maintenance on the Sunrise II plant site and along the water supply line corridor. A detailed Erosion Control and Stormwater Management Plan was prepared for the

Sunrise simple cycle construction in response to conditions of certification SOIL & WATER 1 and 2. The plan will be updated for Sunrise II and when it is finalized is to serve as the stormwater pollution prevention plan as required under the General Construction and Industrial Activity Stormwater Permits issued by the State Water Resources Control Board.

Surface soil protection may include the use of mulches, synthetic netting material, and riprap; the installation of a sediment detention basin on the downgrade edge of the plant site; and the compacting of native soil. All grading operations will be conducted in compliance with the Kern County Grading Ordinance.

Soil will be stabilized in areas that will be disturbed by construction but not compacted or covered by pavement or concrete structures. In areas of excavation, soil should be graded and compacted to ensure that removed soil is not left in irregular piles that are more susceptible to water and wind erosion. Seeding will be performed in the areas where natural vegetation has been distressed or removed by construction activity.

G. Water Resources

The mitigation measures for water resources within the project area and water supply line corridor have been described in the Sunrise AFC, page 8.14-19 and the Sunrise II Amendment, page 8.14-15. The CEC describes the water resources in the Commission Decision on the Sunrise Power Project, Section VII, pages 198 through 201 issued December 2000. Additional CEC Staff analysis on Soil and Water Resources was issued in September 2001. Additional information on the water resources and the new Sunrise II water supply line corridor are provided in the Preconstruction Notification, Nationwide Permit #12 submitted to the U.S. Army Corps of Engineers; the Water Quality Certification application submitted to the Central Valley Regional Water Quality Control Board; and the Notification of Streambed Alteration submitted to the California Department of Fish and Game. The mitigation measures for water resources are unchanged by the Sunrise II Amendment. The following information is a summary from these documents and the CEC evidentiary hearing record.

Surface water mitigation measures include implementing the Erosion and Sediment Control Plan and the Stormwater Pollution Prevention Plan for Construction Activities during construction and the Best Management Practices integrated into the plant designas updated prior to beginning construction of Sunrise II.

With regard to construction of the water supply line, Sunrise II does not intend to discharge any dredged or fill material into the 100-year floodplain of any water of the United States. Sunrise II is proposing to trench cut the pipeline through all the stream crossings, following procedures in the project Stormwater Pollution Prevention Plan and restore them to their original contour and plant cover as described in the project's approved Biological Resource Mitigation Implementation and Monitoring Plan.

It is anticipated that no permanent above-grade fill will be constructed within the 100-year flood plain associated with the water line. This will be accomplished by conducting a pre-construction survey in the areas of concern and assuring that those areas will be returned to

the pre-construction condition. Excess fill material caused by the installation of the water line will be disposed of off site.

The potentially impacted waters are 30 unnamed intermittent drainages that are tributaries of the named drainages Broad and Buena Vista Creeks, and are non-navigable, isolated, intrastate waters. All work related to the water supply line installation will be conducted during dry weather to avoid potential erosion of the excavation in these drainages. Topsoil will be stockpiled and spread on the surface to bring the contour back to its preconstruction appearance. These potentially impacted waters do not have riparian or wetlands vegetation or support fisheries or shellfish that could have an affect on interstate commerce. Any runoff from a storm event is expected to disappear into the local water table.

General mitigation measures to be applied in the water supply line construction are:

- During construction, litter or construction debris shall not be dumped within the riparian/stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- Areas of disturbed soil that slope towards the stream shall be stabilized to reduce erosion potential. Any planting or seeding done will be done with native seeds and plants only.
- If a streambed has been altered during the project, it shall be returned as nearly as possible to the original configuration without creating a possibility for future bank erosion.

H. Range

It is anticipated that the water supply line corridor will have minimal impacts on rangeland. If fencing or other rangeland improvements are altered, repairs will be the responsibility of Sunrise II and/or their contractors.

VII. RESIDUAL IMPACTS FOLLOWING APPLICATION OF MITIGATION MEASURES

Except as noted below, the residual cumulative impacts of this project are expected to be insignificant.

A. Biological Resources

With the implementation of the proposed mitigation measures, compensation, and Section 7 terms and conditions, the project is not expected to result in incremental effects that would cumulatively compromise the biological resources of the project area or the southern San Joaquin Valley. The CEC analyzed the total project impacts for biological resources and also concluded that the implementation of conditions of certification would result in no unmitigated significant direct, indirect, or cumulative impacts to biological resources.

B. Cultural Resources

With implementation of the mitigation measures, no residual impacts are anticipated to National Register Properties or any Native American traditional lifeway values as a result of this undertaking. An assessment has determined that the project will result in no direct, indirect, or cumulative impacts to known historic or traditional cultural properties. If undiscovered resources are exposed during construction, the mitigation measures described above will address any unforeseen impacts and reduce them to an insignificant level.

C. Paleontological Resources

No significant unavoidable impacts to paleontological resources for this undertaking have been identified. If undiscovered resources are exposed during construction, the mitigation measures described above will address any unforeseen impacts and reduce them to an insignificant level. With implementation of these measures, no significant direct, indirect, or cumulative impacts to paleontological resources are anticipated.

D. Visual Resources

The project will not result in any significant unavoidable direct, indirect, or cumulative impacts to visual resources on public or private lands.

E. Air Quality

With the implementation of the emission reduction equipment and processes specified and the acquisition of ERCs, no significant unavoidable direct, indirect, or cumulative impacts will occur to air quality in the project area due to construction, operation, or maintenance of Sunrise II.

F. Soil Resources

With the implementation of the above described mitigation measures, no significant direct, indirect, or cumulative impacts to soil resources on public or private lands are anticipated from the proposed project.

G. Water Resources

With the implementation of the above described mitigation measures, no significant direct, indirect, or cumulative impacts to water resources on public or private lands are anticipated from the proposed project.

H. Range

No significant adverse impacts to range on public lands are anticipated from the residual impacts following application of mitigation measures.

VIII. CONSULTATION AND COORDINATION

The Sunrise AFC and Sunrise II Amendment and CEC's FSA, PMPD, evidentiary hearing record, Commission Decision, and analyses document extensive and comprehensive environmental analyses, as well as field studies for endangered plants and wildlife species, cultural resources, paleontological resources, noise, water resources, socioeconomics, soil conservation, visual resources, and air quality. These documents were submitted to or created by CEC and copies are available in the Bakersfield BLM office.

The agencies listed in AFC Table 10-1, Sunrise Project Summary of LORS and Compliance attached as Appendix B and the agencies listed in each environmental section of the Sunrise II amendment were consulted during the preparation of the AFC and Sunrise II Amendment. Many of these agencies, such as those listed under biological resources and water resources, will require permits or other approvals prior to construction or operation of the project. The information from the AFC, the Sunrise II Amendment, and other agency permit applications as well as the CEC's FSA, PMPD, evidentiary hearing record, Commission Decision, and analyses was used extensively in the preparation of this Environmental Assessment.

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Right-of-Way

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LIST OF ATTACHMENTS

EXHIBIT A through A8 - Project Component Map

EXHIBIT B - Standard Right-of-Way Guide Stipulations

EXHIBIT C - Biological Opinion, dated 12/20/2001

EXHIBIT D - CEC FSA, dated 11/2001

EXHIBIT E - AFC, pgs. 8.2-21/8.2-25, dated 1/1999

EXHIBIT E-1 - AFC, Amendment, pg. 8.2-20, 5/2001

EXHIBIT E-2 - AFC Amendment Appendix J, pgs. 153-163, dated 5/2001

EXHIBIT E-3 - COMMISSION Dec. SEC.VII, pgs. 153-171, dated 12/2000

EXHIBIT E-4 - BRMIMP Appendix A, dated 11/2001

EXHIBIT F - AFC, pgs. 8.3-16/8.3-18,dated 1/1999

EXHIBIT F-1 - AFC, AMENDMENT, pgs. 8.3-18/8.3-21 dated 5/2001

EXHIBIT F-2 - AFC-AMENDMENT APPENDIX J, pgs. 172-184, dated 5/2001

EXHIBIT F-3 - COMMISSION DEC. SEC.VII, pgs. 172-187 dated 12/2000

EXHIBIT F-4 - CRMMP & ADDENDUM, dated 10-2001

EXHIBIT G - AFC, pgs. 8.16-16/8.18-18,dated 1/1999

EXHIBIT G-1 - AFC, AMENDMENT, pg. 8.16-7, dated 5/2001

EXHIBIT G-2 - COMMISSION DEC. SEC.VII, pgs. 188-197 dated 12/2000

EXHIBIT G-3 - PRMMP, dated 10/2000

EXHIBIT G-4 - CONDITION OF COMPLIANCE PAL 2, dated 11/2001

EXHIBIT H - AFC, pgs. 8.1-77/8.1-80, dated 1/1999

EXHIBIT H-1 - AFC Amendment, pgs. 8.1-22/8.1-23, dated 5/2001

EXHIBIT H-2 - COMMISSION Dec. SEC.VI, pgs. 98-131, dated 12/2000

EXHIBIT I – AFC, pg. 8.9-15, dated 1/1999

EXHIBIT I-1 - AFC Amendment, pg. 8.9-14, dated 5/2001

EXHIBIT I-2 - COMMISSION Dec. SEC.VII, pgs. 198-201, dated 12/2000

EXHIBIT J – AFC, pg. 8.14-19, dated 1/1999

EXHIBIT J-1 - AFC Amendment, pg. 8.14-15 dated 5/2001

EXHIBIT K - AFC TABLE 10-1 LORS, dated 1/1999

DECISION RECORD AND
FINDING OF NO SIGNIFICANT IMPACT
EA NO. CA-160-02-069

Finding of No Significant Impact: Based on the analysis of the potential environmental impacts contained in the attached environmental assessment, we have determined that impacts are not expected to be significant and an environmental impact statement is not required.

Recommendation/Rationale: It is recommended that a right-of-way be granted to Sunrise Power Company, LLC for construction, operation, and maintenance of a new water supply line on public land. There are no conflicting land uses or land status, and the proposed action conforms to the BLM land use plan. The right-of-way shall be granted pursuant to the Federal Land Policy and Management Act of October 21, 1976, as amended (43U.S.C. 1761). The right-of-way shall be made subject to the terms and conditions of 43 CFR 2800 and the mitigation measures set forth in the environmental assessment (included as EXHIBIT B, Stipulations). The land is legally described as follows:

Mount Diablo Meridian
Section 32, N1/2NE1/4,N1/2N1/2NW1/4
T. 31 S., R. 23 E.
Section 14, S1/2SE1/4SE1/4
T. 31 S., R. 24 E.
Kern County, California

Reviewed By, Project Lead Date

Authorized Officer Date

DECISION: I have reviewed the recommendations on the proposed action addressed in this environmental assessment. I find this action to be in conformance with applicable land use plans, that it effectively serves the public, and that it will not cause unnecessary or undue degradation. The array of alternatives and the level of analysis are more than sufficient. Although the project crosses an area of critical environmental concern, this use is compatible with management of the area. Potential impacts to sensitive biological resources are thoroughly mitigated. It is therefore my decision to approve the proposed action, subject to the mitigation measures identified for the proposed action in the Environmental Assessment. The Decision Record incorporates the mitigation measures and recommendations into the proposed action as the decision of the Bureau on this matter.

Approved By:

Authorized Officer	Date